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All communications on Editorial matters and books for review should be addressed to the Assistant Secretary, Society of Antiquaries, Burlington House, London, W. 1

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The Antiquaries Journal

VOLUME XXVIII JANUARY–APRIL 1948 NUMBERS 1, 2

EXCAVATIONS AT ATCHANA-ALALAKH, 1939

By Sir Leonard Woolley, F.S.A.

Foreword

Owing to the war I was unable to prepare for publication an account of the 1939 excavations at Atchana on which I had read a paper to the Society; the report was begun but never finished. Since then there have been fresh excavations (in the spring of 1946), but as the new work was on a comparatively small scale and was planned as a complement to the 1939 season, even covering in part the same area, it is far better to treat of the results of the two seasons together. I propose therefore in this report to describe the private houses and the Palace of Yarim-Lim, of which the former were entirely and the latter was mainly excavated in 1939, and to reserve for a subsequent report the description of the Temple site discovered in 1939 but thoroughly excavated in 1946, and of the stratigraphical results obtained mostly in the latter season.

The spring season at Atchana-Alalakh was rather shorter than usual, for the rains lasted on until almost the end of March and the best harvest that the Hatay had known for many years called our workmen away at the beginning of June; but ten weeks' work was done, and the results were of the greatest interest and on a scale not less than in former seasons, for as many as 400 men were employed at a time and the area excavated was fully up to previous standards. The staff consisted of my wife, Colonel A. H. Burn, C.I.E., O.B.E., who had gained experience in Near-Eastern excavations under Mr. M. E. L. Mallowan and joined us this year as a volunteer, and Mr. Peter Ollard; I need hardly say that the results which are recorded here are largely due to their help, for which I am most grateful. Hamoudi was, as always, head foreman and was assisted by his sons, Yahia, who was responsible for the photography also, Alawi, Ahmed, and Mohammed, the last a new recruit of much promise; their handling of the very mixed gang of workmen, Turks, Arabs, Kurds, Alawites, and Armenians, left nothing to be desired in tact and efficiency.

I must also thank Mr. Sidney Smith for his work upon the cuneiform inscriptions, Mr. R. D. Barnett for information regarding the 'Hittite' hieroglyphic inscriptions, and Mr. I. E. S. Edwards for help with the Egyptian hieroglyphics. To M. Ruhî Tekan, Director of the Antioch Museum, I am indebted for his sympathetic interest in our work, and to Çevat Beg Açikalin, formerly Envoy Extraordinary for Turkey in the Hatay, for his unfailing and friendly support. To the Trustees of the British Museum, to the School of Archaeology in Iraq, and to the friends whose generosity

made our work possible I extend my sincerest thanks and my congratulations on its success.

The site chosen for excavation was a long strip behind the NE. wall of the (late) city, between the palace of Niqmepa on the west and the private houses excavated in 1937 on the east; the eastern end of the strip was excavated down to the fourth level, that of the lowest 1937 houses; the western end was taken down to level VII, that of the palace found this year. While the part containing private houses only was comparatively narrow, some 40 metres across, at the western end the excavated area of the palace widens out to 80 m. and more; the superimposed buildings over so extensive a field have given us stratigraphical evidence of a thoroughly reliable sort.

The House Sites

The two upper levels of houses 39/A and 39/B had been dug in 1938; we now cleared the third and fourth levels. It is necessary to insist from the outset that where private houses are concerned, while it is correct in the case of each to speak of 'levels', caution must be used in arguing from one to the other; on two neighbouring house sites there may be the same number of superimposed buildings, but the synchronization between the two series is not necessarily exact—there is no reason why the reconstruction of the building on the one site should have been undertaken at precisely the same moment as that on the other, and it is far more likely, in most cases, that there was an overlap more or less considerable. Thus the 'fourth-level' house of site 39/A was definitely older than its 'fourth-level' neighbour to the east and part of it had actually been razed in order to make room for that neighbour, with which the western part of house 39/A, after being more or less rebuilt, was contemporary in use; but both, as was shown by the pottery contents, must be referred to the fourth period, just as must the three sections of Niqmepa's palace[1] constructed in three distinct phases of the same period. The fact that the buildings are not strictly contemporary in their foundation explains why on the different house sites the best-preserved ruins are not always in the same stratum or of the same date. On the 39/A site level IV was comparatively well preserved and level III practically non-existent; next to it on the west, level III was in good condition and of level IV hardly anything survived; beyond that again, level II was found almost complete, while of level III there was very little and of level IV the greater part of the ground-plan survived; the demolition of houses and the raising of their sites by means of the old debris to make a platform for the new building took place not simultaneously but at different times, and the height of the new platform (on which depends the degree to which the walls of the old building are preserved) would vary in each case with the circumstances of the moment.

House 39/A, belonging to an early phase of the level IV period, was chiefly remarkable for the fresco remains in room 6. The walls were standing to an average height of a metre and were covered with a fine lime plaster laid over a ground-plaster of lime and mud; on the white was a painted design which reproduced the best type of contemporary wall-construction; the walls themselves were of mud-brick resting on shallow rubble and pebble foundations, but the design showed the

[1] See *Antiq. Journ.*, vol. xix, no. 1, p. 5.

architectural features found, for instance, in the palace of Niqmepa. Immediately above floor-level was a dado formed of rectangles, 0·15 m. high and 0·71 m. long, painted dark grey with flecks of red and greenish-blue, divided by pale yellow vertical stripes 0·05 m. wide and bordered above with a pale yellow band 1 cm. wide; these represent the basalt orthostats of palace construction with their

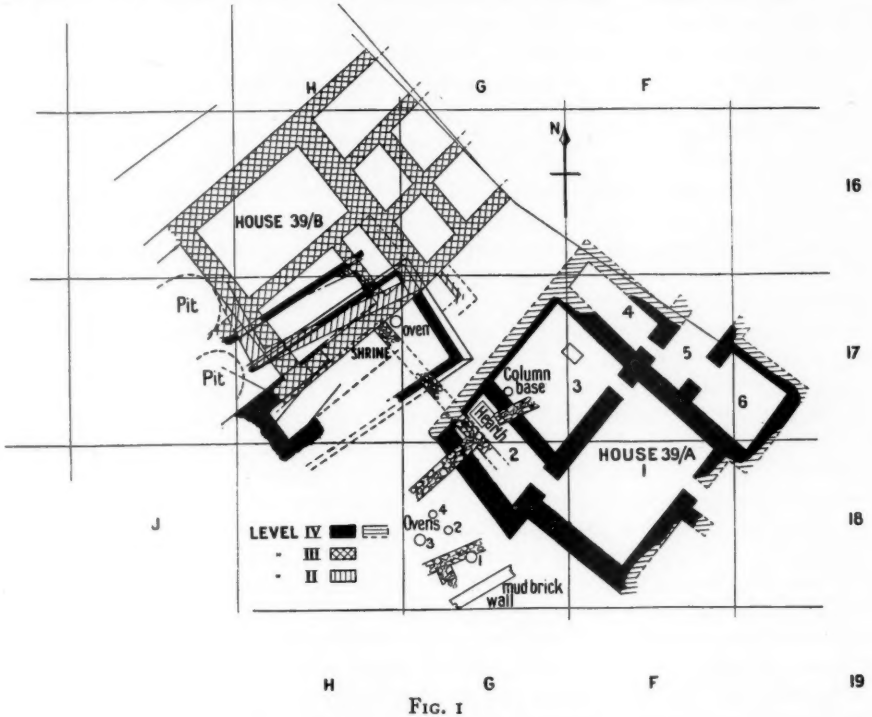


FIG. 1

cemented joints. Above the yellow line was a band of deep red 0·14 m. wide which represents the wooden beam resting on the orthostats; then for 0·65 m. was the plain wall surface, creamy-white. Above this came another horizontal band of red, 0·10 m. wide, on which are wavy horizontal lines in purplish-black; this is the second beam (cf. the photograph, pl. IV*b*, of the older palace), the wavy lines being probably meant for graining; at intervals there were below the band, but touching it, red squares (their exact dimensions could not be ascertained) which are apparently the ends of the baulks laid transversely through the wall's thickness. This architectural decoration in fresco has its exact parallel in a corridor of the L.M. II West Porch of the Palace and also in the M.M. III period (East Palace Border) at Knossos,[1] and its occurrence at Atchana—presumably in the late fifteenth century—is a strong argument for a cultural connexion between the two

[1] Arthur Evans, *The Palace of Minos*, vol. iv, pp. 894, 896.

places. On the NE. the houses of levels III and IV were cut away by or underlay the massive mud-brick city wall of level II.[1]

House 39/B gave (except on the NE. where it ran under the level II city wall) a fairly complete ground-plan which has been many times modified; the walls had been rebuilt, sometimes on the same lines, sometimes with slight changes, and the lifetime of the building would seem to have been long. It overlies what is certainly a level IV construction, but it was itself probably founded in the latter part of the level IV period and flourished throughout that of level III; it is to the latter therefore that it properly belongs. Between this house and house 39/A there was an open space which may have been a lane; encroaching on this was a fairly early addition (only in part preserved) with tiled floor and walls of burnt bricks measuring 0·38–9 m.×0·14 m.; there was an oven to the SW. of it, and the room may have been a kitchen. The large room in the west corner was an open court whose floor had been raised 0·15 m. and 0·20 m. above its original level during the period for which the house was in use; the plan was apparently of the common type with a courtyard having rooms opening off it on two or three sides; here the NE. range is doubled.

The older building on the site (level IV) was peculiar. All that remained of it was a platform 6·80 m. wide and more than 12·40 m. long (its SW. limits were not found) whose containing-wall had a battered face 1·40 m. high with a slope of from 0·15 m. to 0·40 m. in 1·00 m., built with a single thickness of mud-brick revetted with matting and clay; the filling was of mixed rubbish; along the edge of the revetment there had been a mud-brick enclosure wall 1·15 m. thick, this showing above ground whereas the sloped revetted wall had probably been below ground-level and acted merely as a foundation.[2] Within the enclosure wall all buildings at the NE. end had disappeared, but towards the SW. there was the end of a solidly built chamber with remains of a stone floor, walls of stone and mud-brick coated with white plaster, and, on the NW. side, one stone jamb and part of the stone threshold and door-socket of a wide doorway. Here there was found a small gold crescent pendant (AT/39/103) and, at 2·40 m. from the NE. corner of the enclosure, the strange semi-baetylic limestone carving AT/39/119 illustrated on pl. VII *a*; it stands 0·73 m. high and only the face of a god wearing the horned cap is carved, the rest of the stone being left in its natural rough state; probably it represents the transition-stage between the worship of the crude stone or baetyl and that of the iconic figure. The rectangular building with its elaborate doorway is quite unlike anything else in the house area and was in all likelihood a shrine to which the semi-iconic figure belonged. It must date from the very early part of the level IV period or possibly was built in that of level V and survived into IV; provisionally it might be assigned to the end of the sixteenth century (pl. I *b*).

This relief must be associated with a number of stone figures, mostly in the round, which seem to be not so much primitive as intentionally crude (see pl. VI). The most remarkable (AT/40–45/3 and 4) are a pair, male and female, which came to light during the war. The collapse of the face of our cutting just inside the city

[1] See *Antiq. Journ.*, vol. xviii, no. 1, p. 18.

[2] For the foundations of buildings in damp soil a similar technique is sometimes employed in north Syria to-day.

gate exposed the two stones standing upright side by side; they were removed by our guards and kept for our return. As the impression of them in the soil remained, we were able to establish the fact that they were in level V, though it is possible that they had been put into a hole dug down into that level from above; but they should be roughly contemporary with the semi-iconic statue from the house site. The examples AT/39/276 and AT/46/95 are of the same date, level IV–V, but three examples, AT/39/319, AT/46/89, and AT/46/134, come from level III; it is curious to find at a time when civilization had reached so high a level as was witnessed by the Niqmepa palace cult figures of so barbarous a type as these.

Of house 39/c level II was well preserved, levels I and III were very fragmentary, and of level IV the ground-plan was recovered almost complete but little more than the foundations of the walls remained. The level II building was distinctly reminiscent of the houses dug in 1937. At the SE. end there was a large open court with small chambers or outbuildings at its SW. end; the main part of the house extended to the NW. and consisted of three ranges of chambers of which those along the NE. side had cement floors and two of them, smaller than the rest, were lavatories (or washing-rooms) whose drains ran through the outer (NE.) wall and under the narrow lane which divided the house from the city wall to find an exit on the far side of the latter. A considerable deposit of fine 'Atchana' pottery was found in the easternmost of the two lavatories and another in the outbuilding SW. of the courtyard; in the former case the pottery lay on the cement floor and underneath a second cement floor 0·25 m. higher which was also of level II but denoted a repair phase, so that the vases belong to the early part of the period. The much-ruined rooms at the NW. end were domestic in character; that in the SW. range contained two ovens, several ring-stands, and much pottery, and that in the central range also contained a lot of pottery including a Mycenaean pyriform vase (ATP/39/168). Against the outer SW. wall of the house, in sq. K. 15, there was a rubbish-pit which went down into level VI but was definitely dated to level II by the fact that a fragment of 'Atchana' painted ware found in it fitted to a fragment found in the outbuilding SW. of the courtyard; in the pit were several ring-bases of drab clay and the red porphyry lamp AT/39/280 figured on pl. VIII *a*. The lamp, shaped as a column capital, 0·165 m. high and 0·32 m. in diameter, has in the top a central basin for oil surrounded by twelve smaller compartments, communicating with the central basin and with each other by small holes, for twelve wicks; the divisions between the compartments and the decoration in relief on the outside of the lamp shows the lobed design characteristic of Cretan pottery, and the general shape of the lamp and especially its two pendants find exact parallels at Knossos. Red porphyry is found in the Amanus range NW. of Atchana and does not occur in Crete, although objects (including lamps) carved in that material are not uncommon in the island; this lamp, however, is so completely Minoan in character that it is difficult not to regard it as an import from Knossos even if its raw material was exported thither from north Syria. If it is an import it is conclusive evidence for trade relations between Crete and Atchana; should it prove to be of local manufacture, then it bespeaks a cultural relation even closer. The cylinder seal AT/39/17 (pl. IX) comes from this level, sq. L. 13.

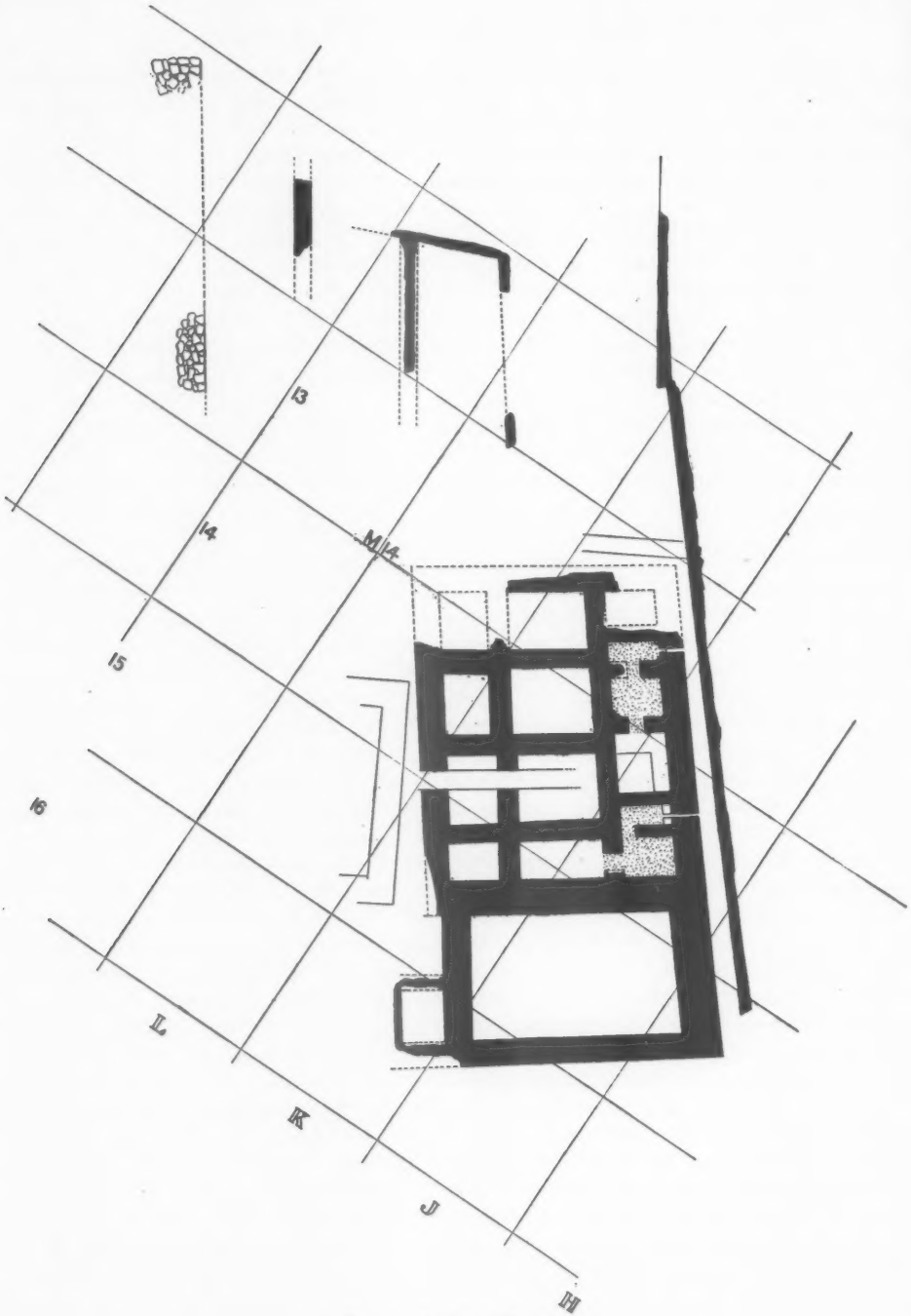


FIG. 2. Level 2, House 39/c

The level IV house was large and contained a newel staircase, from which fact we may conclude that the building was of two stories. Its NE. side underlay the level II city wall and was not excavated by us; its SW. side was hopelessly ruined. In some cases the doorways seem to have been fitted with stone jambs (as in the 1937 house of this date) and the mud-brick walls rested always on foundations of stone rubble. Below it, but at a scarcely lower level, were remains of a level V building associated with which was a painted vase of 'Khabur' ware (ATP/39/284), fragments of Cypriote white slip ware with designs in black and light brown or red, and a terra-cotta AT/39/295. An unusual terra-cotta relief, AT/39/240 (pl. IX), found in sq. K. 14, may have belonged to level III or IV; the naked goddess standing on an antelope's (?) skull with a dove on either side and a winged disc above seems to appear here for the first time. From the same level come the cylinder seals AT/39/201 and 215 (pl. IX).

At the NW. end of the house site two distinct buildings must together be taken as representing level VI; they lie below what we can identify as level V and above the SE. end of the great palace which is of level VII. The older of the two was well constructed with thick walls of mud-brick on heavy rubble foundations and with floors of concrete such as is found in the palace underneath; within its area, in sq. M. 13, there were found eight segmental bricks, 0·09 m. thick, 0·23 m. high, and in width 0·27 m. at the top and 0·23 m. at the base, which may have been for a well lining but may have belonged to an arch; in the sixth level they were reused apparently for a wall foundation. These are the earliest segmental bricks that we have found. In the stair-well, i.e. in the cupboard that had been below the stairs and in the passage at its foot, there lay dozens of examples of a two-handled clay bowl, type 196, which had never occurred in any of the higher levels. No Atchana or 'Nuzu' ware was found in levels V or VI. In level V there was found a fragment of a Mycenaean vase with the octopus design, the spots on the arms being rendered in opaque white paint on the red-brown ground; the Cypriote milk-bowl continued down to level VI.

To the NW. of this house site, over the ruins of the level VII palace, the strata were a good deal confused and the plans of the buildings in them were very incomplete. Such remains as there were seemed to be quite inconsistent with the normal private house plan; an extremely heavy double wall with intramural chambers running parallel with the NE. city wall and turning SW. with it enclosed a large courtyard the centre of which had been occupied by a relatively small block of buildings now too ruinous for their character to be ascertained, though a drain and what might have been the base of an altar suggested a religious use. While there were minor differences between the buildings of the different levels in the matter of the precise arrangement and orientation of walls, yet the general plan appeared to have been much the same in IV, V, and VI; in the upper levels the scanty remains might well have been those of houses, and as the big chambered wall of the earlier levels was buried underneath the solid mud-brick city wall of levels III and II, there had clearly been at this stage a complete break in the tradition of the site.

As the excavation of this part of the site went on we were at first much puzzled by the question of stratification; at a very short distance from the modern surface

we encountered the pottery types characteristic of level IV and immediately below these there began to appear, amongst wall remains so closely superimposed as to be distinguished only with great difficulty, black or grey incised pottery of a sort not known in the Niqmepa palace and then painted wares resembling those found in the mound of the city wall[1] but nowhere else in our excavations of the upper levels; thus a fine but fragmentary krater (ATP/39/106) came from sq. N. 10 just below the foundation-level of the walls of the sixth series; but the foundations of these walls lay 1·60 m. *above* the concrete floors of the level IV Niqmepa palace in sq. O. 10, less than 10 m. away, and it was not easy to account for this glaring discrepancy.

The foundations of level VI were, over the greater part of the area, laid in a stratum of broken bricks and brick dust burnt to a deep red colour which contrasted strongly with the ordinary grey rubbish of level VI itself; occasionally in the red stratum there were pockets of grey decomposed mud-brick which had obviously been brought here to level inequalities in the red surface; only against the outer face of the SE. wall of Niqmepa's palace was there a certain amount of mixed rubbish containing potsherd amongst which was a fragment of an (early) 'Nuzu' vase. Only after much and careful digging in the red stratum, which went down consistently for more than 2·50 m., were we able to distinguish the burnt and crumbling walls of what proved to be the early palace of Yarim-Lim; and with this discovery the difficulty regarding the levels was solved.

Yarim-Lim's palace was built in descending terraces. Its SE. end lay on what was then the top of the city mound; the second terrace was cut into that mound's sloping face, the lowest part, namely the great courtyard and the official quarter, stood on a low platform which ran out from the foot of the mound and was probably, in part at least, expressly constructed for the purpose by the palace builders. The official quarter was two (and possibly even three) stories high and its walls of mud-brick were extremely thick; when all was destroyed by fire the debris of the upper walls filled the ground-floor rooms to a depth of about 3 m. and only the site of the great court was marked by an irregular hollow. The builders of level VI did not trouble to clear the rubbish away; on the contrary they availed themselves of it to level up the old terrace and have a uniform platform extending from the top of the *tell* over the greater part of the old palace area; they razed such wall-fragments as still protruded above the surface, filled with imported rubbish the hollow above the old court, and on their new terrace, 3 m. and more above the floors of the buried palace, they laid the foundations of the courtyard building which was to be the model for the next two generations of builders. Necessarily the new terrace corresponded more or less to the limits of the old palace, and therefore it formed a promontory with low ground to the NW. of it extending as far as the level VII city gate found by us in 1938; there the ground-level rose but slowly, and at the beginning of the period of level IV it was still 1·60 m. below that of the terrace. When the SE. wing, the 'official quarter', was to be added to the Niqmepa palace which occupied that low area, the space available between the existing building and the foot of the terrace was too small to accommodate it; therefore part of the terrace was cut away and the outer (SE.) wall of the new palace wing served also as a

[1] *Antiq. Journ.*, vol. xviii, no. 1, p. 16.

retaining-wall of the remaining part of the terrace. This is clearly shown by the photograph of room 2 of Yarim-Lim's palace on pl. II *a*. Resting on the concrete floor of the old building are the massive rubble foundations of the east corner of the Niqmepa palace; above the stone courses the wall is constructed in mud-brick (timber is not used in outer walls) but its face is rough; at 3 m. above the floor of the old palace (1·40 m. above the level of Niqmepa's floors inside the building) there is a horizontal band of black ash and rubbish making a very obvious mark on the wall face at precisely the level of the top of the platform as defined by the level IV foundations on it, and above this band the wall is neatly plastered and is reddened by the fire which destroyed the Niqmepa palace. If further evidence be required it is given by the fragmentary buildings on the terrace itself. All those of levels VI, V, and IV are orientated in agreement with the buildings on the low-lying area which Niqmepa's palace replaced; their NE.×SW. walls resting on the red rubbish stratum have been cut away a metre or so short of the Niqmepa palace wall, just where the character of the lower rubbish changes and the debris of the old palace is replaced by the mixed filling put by Niqmepa's builders in the gap between the cut-back face of the terrace and their own new retaining-wall. The apparent anomaly of the stratification on the two sides of the wall is satisfactorily explained.

The outstanding discovery of the season was that of the palace of King Yarim-Lim, a building of level VII which according to Professor Sidney Smith is to be dated to about 1780 B.C.; the name of the ruler and the evidence for his date are given by tablets found in the ruins.

The building is very large (pl. I). It is orientated NW.×SE.; at the NW. end its width is 27·50 m., increasing farther to the SE. to 33·00 m.[1] and its length so far as it is preserved is 95·00 m., but the SE. end is completely destroyed and the original length may have been considerably greater. It occupied a series of terraces formed in the NW. slope of the city mound; structurally it is divided into three sections corresponding more or less to the terrace levels. The NE. end rises from a platform which seems to have been constructed for the purpose as a projection from the old contour line of the citadel mount; this is the lowest terrace, and the NE. wall of the palace was also the citadel wall. The block of buildings here formed the official quarter of the palace; there was an entrance-chamber with a doorway approached by a lane running along the SW. wall of the palace, a great Chamber of Audience, offices (on the analogy of the later palace of Niqmepa these should be a withdrawing-room and a secretariat and perhaps an archive), and a staircase leading to the upper floor or floors—the block was certainly of two and may have been of three stories.

To the SE. of this block there was a large open courtyard measuring about 21 m.×11 m. with a central hearth. Originally the main entrance of the palace had been at the SW. end of the court, but it had later been walled up. From the courtyard there was direct access to the staircase of the NW. block, and also to the storerooms (on the same level) of the central block of the palace and to the stairs leading to it and to the SE. block.

[1] In 1947 a further wing of the palace was found running out from the west walls of rooms 17 and 22.

The central block was constructed partly on the lowest terrace and partly on the second terrace which lay about a metre higher. Facing on the great court were three inter-communicating storerooms which could be entered only from the courtyard so that while structurally they belonged to the central block they must have been connected functionally with the NW. block; as there were found in them quantities of tablets and elephants' tusks, we may perhaps assume that they were for the storage of gifts, tribute, or other goods passed on from the Chamber of Audience. The doorway in the west corner of the court led to a flight of seven steps at the top of which was a square landing; three more steps brought one into a corridor which, divided into sections by cross-walls and doors, ran through the entire length of the central and SE. sections of the palace, skirting its eastern wall, which was also the wall of the citadel. On the right-hand side of the landing there was another flight of stairs running round a brickwork newel which gave access to the upper floor or *piano nobile* of the central block.

The long SE. corridor having reached the level of the middle terrace had a doorway into what must have been an open yard or light-well (18 on the plan) off which opened the two back rooms of the central block (15 and 16) built on the middle terrace level and the very puzzling complex 19–17. Another door led to three small rooms (22, 23, and 24), two of which (23 and 24) would seem more properly to belong to the SE. block, but since the whole of this part is clearly a later addition forming a salient from the SW. wall of the palace, a certain degree of irregularity in the plan is not unnatural.

The SE. wall of the light-well forms the limit of the central section. Beyond it the ground-level rises gradually, each room being stepped up a little above the room to the NW. of it; but the rise is so slight that in the corridor along the SE. wall there are no steps but the floor slopes gently. Thanks to the high level at which the buildings now lie and to the fact that being of a purely domestic character they were flimsily built and of one story only, they are in very bad condition. The corridor, which must have counted as part of the fortifications and was therefore solidly constructed and, of course, protected by the massive enceinte wall of the citadel, is well preserved; but of the rooms immediately bordering it on the SW. only the wall-foundations could be traced and beyond that all was guess-work; the buildings and the rubbish-pits of levels VI and V had resulted in the complete destruction of this quarter of the Yarim-Lim palace.

Detailed notes

Entrance-chamber (Room 7).[1] The outer threshold was a single block of basalt between basalt-faced jambs; in the centre of the threshold was a circular hole, diam. 0·28 m., filled by a carefully cut basalt stopper flush with the surface; it looks as if there had originally been a central pillar with double doors later replaced by a single-flap door. The floor was of concrete with a fine cement surface; the threshold in the SE. wall was of concrete with timber casing. As in all the rooms of the NW. block, the walls have basalt orthostats resting on cement-faced rubble; at one stage

[1] *Note.* For the sake of easy reference the rooms are numbered in order from the top left-hand corner; but the description here follows the logical arrangement of the building.

a. Yarim-Lim's palace, room 2. The foundation of Nigmepa's palace cut down through the SW. wall of the earlier room

b. House site 39 B, level IV. The podium of the little shrine (?)

a. Palace, room 5, looking into room 5A, showing the wide cement threshold on which are the marks of wooden columns. In front of the threshold are the slots in the cement for wooden blocks taking the door-hinges and bolts: against the threshold is the long groove for the wooden threshold-edging

b. Palace staircase (10). View looking down at the corner of the newel with the first and second flights

the NW. and SE. walls had been thickened, the new construction being of the same style as the old. The walls had been re-plastered and painted several times; the final coat was of plain yellowish-white plaster with no paint. The NW. wall was preserved up to a height of 3·15 m. Five skeletons lay in the room.

At 0·30 m. above the floor, over a layer of burnt brick rubble, there were numerous fragments of smooth-faced concrete from the floor of the room above; with these were quantities of plain strips and sheets of ivory, three haematite weights, fragments of clay vessels, and a bronze tripod bowl AT/39/142.

Chamber of Audience. The room, entered directly from the entrance-chamber, was divided into two parts (rooms 5 and 5A) by timber and brickwork piers (these, like the SE. wall, had no stone orthostats) between which were four columns of wood rising from a threshold of concrete encased on either side with wood (pl. III *a*); the SE. column had left a sharply marked impression in the concrete, which was still wet when the column was set up; the other three were given by circular patches of burning on the face of the concrete; in front of the middle opening between the columns there was, in room 5A, a step of concrete covered by a plank, this being 0·10 m. above the level of the room floor and the same amount below that of the raised threshold. In room 5A the wooden sill or casing of the threshold was prolonged in either direction by a low dado of cement against the bases of the piers. In 5 there were the depressions in the floor for folding doors—hinge-holes and bolt-hole. In 5 also there was a curious and probably a late feature: the wall plaster had been carried right down over the basalt orthostats and on it there had been painted an 'architectural' fresco like that in house 39/A in creamy-yellow, brown, and black; the mortar lines between the painted orthostats did not correspond to the joints between the real stones concealed by the plaster.

As might have been expected, very few objects were found in the audience chamber, and what there were seem to have come from the upper room; these were fragments of clay pots, mostly large, about twenty in all, nearly all of them of types not found in the higher levels of the site.

Behind the audience chamber was a room (2 on the plan) approached by a shallow step and a doorway with raised concrete threshold; the basalt hinge-stone was on the inside. In the centre of the room there was a cement-lined circular depression which presumably was for a wooden column. The north corner of the room had disappeared with the collapse of the edge of the terrace on which it lay; much of the SW. wall had been destroyed by the foundations of the north corner of Niqmepa's palace which overlay most of rooms 1 and 4 (pl. II *a*). The hinge-hole for the door leading into room 1 was of cement. A human skeleton was found in the room, the bones a good deal burnt; there were no objects with it. On the floor (and therefore not fallen from the room above) were several stone vases, all broken and damaged by heat, five of them of alabaster and one of black steatite, one clay vase, and a clay tablet very badly burnt.

Of room 1 only the north corner could be excavated because its clearing would have involved the destruction of the Niqmepa palace. The room opening out of it (4) was interesting because of the preservation of its walls; the SE. wall had even its plaster face intact up to a height of 2·90 m., with no sign of ceiling-beams,

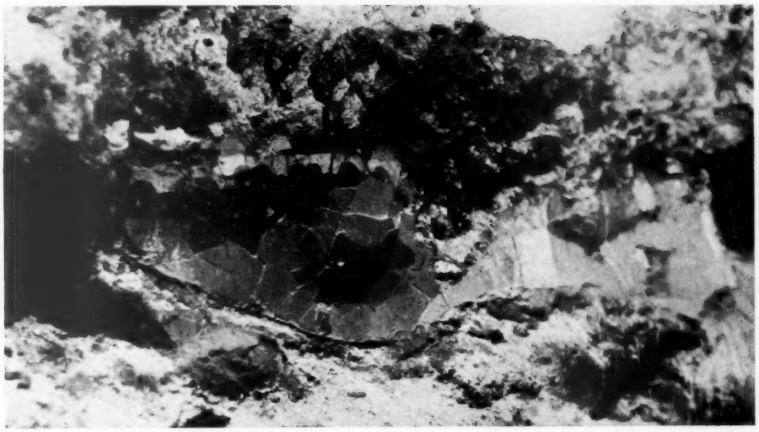
showing that rooms were quite lofty, and as the NW. wall stands to 2·75 m. with no window-opening (and a window in this outer wall is probable although not certain) the height would seem to have been much greater than this. In the bed of black wood ash which lay directly on the cement floor under the burnt brick rubble there were fragments of several alabaster vessels, too calcined for their shapes to be distinguishable, and two clay tablets; fragments of a large clay pot found in the red rubble came from the upper story.

The other ground-floor room of the NE. block (8 on the plan) had a doorway from the audience chamber, this being unusually wide, a door opening on the courtyard, and a door leading to the staircase. Between the latter and the east corner of the room there were marks of burning on the floor and wall which seèmed to show that there had been here a wooden bench or settee 2·00 m. long. No objects were found in the room.

The rest of the block was taken up by the staircase. A small lobby (6) gave on the long narrow passage (3) which runs right through to the back of the building);[1] on the SW. there is between the passage and rooms 2 and 5 a solid and featureless mass of brick; this can only have been the support of the return flight of stairs, and its width, 5·50 m., would precisely allow of such a flight, of the same width as the passage, enclosed by walls of normal thickness; this is accordingly shown on the plan (3A).

At Atchana the normal stair-construction is for the first flight to be solid, the treads of brick, wood, or cement resting on a solid mass of brickwork; only when a certain height has been reached are the stairs carried on in wood over an open space which generally serves as a cupboard. Here on the contrary there is at the start of the stairs no solid brick mass. From the stone threshold of room 8 there is a drop of 0·15 m. to the concrete floor of room 6; at the entrance of the passage there is a rise (with a wooden sill) of 0·05 m. and from this point the floor rises very gradually either in a slope or in shallow steps—the concrete is much broken and survives only in patches—for a distance of 3·25 m., after which there was a more pronounced rise of 1 : 5. The somewhat inconclusive evidence of the floor remains was supported by that of the SW. wall; in the lobby, room 6, the SW. wall was completely vitrified from a height of 1·40 m. up to 2·40 m., the height up to which the brickwork was preserved. In the passage proper similar vitrification, whereby the surface had been fused into what looked like green bottle-glass, started 0·75 m. above the floor, ran parallel with it for 3·20 m., and then sloped up more sharply, gaining 0·50 m. in 2·50 m., when it broke away. The NE. wall shows vitrification for a distance of 2·50 m. from the passage entrance (the surface of the bricks has actually melted and the slag run out on to the floor), after which it stops, but at 3·10 m. from the entrance the cobble wall-foundations rise above what had there been floor-level—which means that here the floor had itself risen so as to cover those foundations. It is apparent that the stairs proper did not start immediately inside the stair-passage; there was first a gentle ramp or very shallow steps, then a level piece, and at about 3·50 m. from the entrance some more steps leading to a landing from which

[1] At least, it can be presumed to have done so. With the collapse of the terrace edge the NW. end, nearly one-half, of the passage has disappeared.



a. Palace, room 12. Painted plaster from the upper story lying against the north wall

b. Palace, room 12. In the background, room 11 with an elephant's tusk lying on the threshold

b. Palace, room 17. The stone doorway blocked by boulders

a. Palace, room 17. The staircase and doorway seen from above the stone shaft

a return along 3A was the real 'first flight' built as usual on a solid brick mass. The vitrification of the walls in room 6 and along the passage (3) can only have been caused by the fall of a great quantity of timber burned in the conflagration which destroyed the palace; this means that over the passage (3) there was an upper stair flight constructed in the usual way of wood. If we assume for the steps in 3 a total rise of something like 2·00 m. (and the rise of 1 : 5 for a run of 10·00 m. would fully allow of this) and for the stairs in 3A a rise of at least 2·30 m., this ought to bring us up to first-floor level, for it is scarcely likely that the ground-floor rooms, lofty as they were, were more than about 4·50 m. high. In that case the wooden return-flight over (3) must have gone up to a second floor and this block of the palace must have been of three stories.

The courtyard (9 on plan) was mainly remarkable for the bricking-up of the great gateway in the SW. wall, which had originally been the chief entrance of the palace. This had not been a work hurriedly extemporized, for the new building was provided with orthostats to match the old,[1] and the projection with its double salient implies something more than a mere blocking-wall, though what effect was intended it is impossible to say. In the centre of the court there was a rectangular brick platform raised 0·30 m. above the cement floor, its corners and edges rounded, and beside it were fragments of a very large alabaster bowl with fluted sides, unfortunately too much broken and distorted by fire for its shape to be distinguished, and a basalt tank, 1·00 m. × 0·85 m., with an internal depth of half a metre, having a notch in the upper edge in the middle of each side and a small hole low down through one end; this also had been subjected to great heat, the stone being partly melted and partly reduced to a clinker. On the floor were found fragments of a number of coarse clay pots, one inscribed tablet, a cylinder seal of baked clay, a small weight in the form of a lion's head in haematite, and a soapstone bowl AT/39/147 (pl. VIII).

A single doorway with folding doors gave access to the three rooms (13, 12, and 11) underlying the NW. end of the central block. These were certainly in the nature of storerooms and had been lighted from the courtyard by windows probably small and certainly high up—for the walls stood to a height of 2·85 m. and showed no signs of any window opening; for storerooms it would be an obvious safeguard to have the windows as inaccessible as might be. The floors were of concrete and the walls rendered with a fine smooth yellowish-white plaster. The very wide doorway between rooms 13 and 12 almost made one room of the two; there was no sign of any central column, but there had been a wooden door-frame narrowing the entrance to 2·60 m. I would suggest that the shallowness of the brick door-piers was dictated by the ground-plan of the room above, which was of the audience-chamber type, divided into two parts by a pair of columns between brick piers for which the piers in the storeroom served as foundations.

The objects found on the floors were, in room 13, about fifteen tablets and fragments of at least two alabaster vases and some bone inlay from a casket; in room 12 about forty tablets, two socketed spear-heads, and a dagger-blade; in

[1] This looks as if the alteration were made at the same time as that in the entrance-chamber (7), where again the new work had orthostats.

room 11 a human skull, five elephant-tusks (pl. IV *b*), two cylinder seals (AT/39/184 and 200, pl. IX), a bronze knife, and a great number of tablets. All these objects belonged to the rooms in which they were found;[1] more important still were fragments of coloured plaster found high up against the walls of these rooms but fallen from the walls of the *piano nobile* above. Of this there were two sorts. In the doorway between rooms 11 and 12 and in the SE. end of the latter room, at about 2·10 m. above floor-level, there were numerous fragments with a white ground on which were broad horizontal bands of blue and yellow, one of them showing also a bull's horn; other fragments had yellow, red, and black bands on the white ground, and one of these showed what seemed to be part of the black ear of a bull. The fragments found at the SW. end of room 12 (pl. IV *a*) and in room 13 had a red ground on which were designs in brown, purple, grey, yellow, and light and dark green; the most interesting had a red ground against which was a tree or shrub; the whole mass of the foliage was reserved and painted a uniform pale greenish-grey, and on this the individual leaves and twigs were drawn in darker green—it was precisely the technique of some of the 'miniature' frescoes of the Palace at Knossos.[2] Fragments of similar painted plaster were found outside the building, against the outer face of the SW. wall of room 13 and here, resting on the fallen rubble of the wall at a level slightly higher than the plaster, were two basalt column-bases, consisting each of a drum on a square plinth to take a wooden column 0·60 m. in diameter, two carefully cut limestone blocks (0·62 m. × 0·27 m. × 0·365 m. and 0·76 m. × 0·31 m. × 0·385 m.) and one rough block; these had fallen from above and probably came from a loggia-window with two columns and a frame of ashlar stone.[3] We can accordingly restore the upper room as a long hall covering the whole area of the lower rooms 11, 12, and 13, divided into two unequal parts by two (?) wooden columns; the NE. end, entered from the staircase, was decorated with frescoes which seem to have included a procession of bulls, the inner or SW. part had gayer frescoes of a more naturalistic sort, and at the SW. end was a great window divided by columns into three lights. The general arrangement is that of a stateroom at Knossos; the frescoes are in Cretan style and the window recalls those on the faience 'architectural' inlay plaques from the Minoan palace; but the Atchana palace, dated to about 1780, is by far the older of the two.

The doorway in the east corner of the courtyard had folding doors and a double rise beyond the threshold; it led into a small lobby (10) to the right of which was a cupboard and to the left a flight of seven steps with a landing beyond and a door leading to the long corridor that ran to the extreme east corner of the palace building. The steps were made each with a wooden beam 0·10 m. thick and

[1] i.e. they belonged to the storerooms. As the tablets in room 11 were scattered all over the floor, whereas those in rooms 12 and 13 all lay in a line between the doors, it would appear that all the tablets really belonged to room 11 but that there had been an attempt to salve them when the palace caught fire and that those in rooms 12 and 13 as well as the one in the courtyard had been accidentally dropped in the process.

[2] Owing to the war there has been no opportunity of examining and repairing the fragments brought to London; the description given here is taken from the field notes.

[3] They were certainly not the columns dividing the main room of the *piano nobile* since those could not possibly have fallen or been thrown into the position against the wall in which the stones were found.

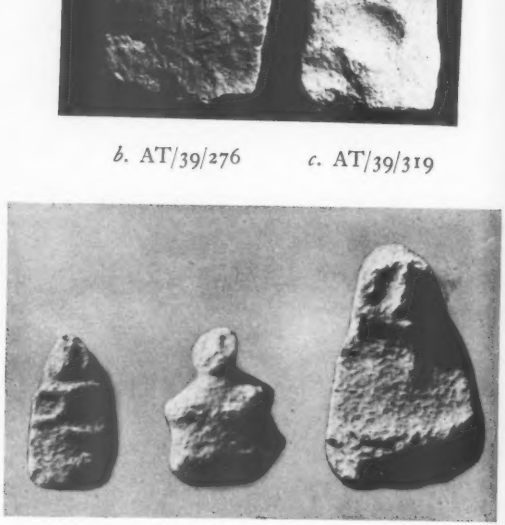
a. Palace, room 17. The four bodies in a box in the stone shaft

b. Palace, room 17. The pile of burnt bones, stone vessels, and clay vases in the NE. corner of the shaft

c. Palace, room 18, showing the sunken tank, the wash-basin, and drain. The pot in the foreground belongs to levels V–VI

a. AT/39/119

b. AT/39/276 *c.* AT/39/319



d. AT/39/139 *e.* AT/39/89 *f.* AT/39/95

g. AT/43–5/4

h. AT/40–5/3

0·16–0·17 m. wide which formed the rise with behind it, for the back of the tread, mud-brick coated with cement; the total width of the tread was 0·42 m. and the seven steps gave a total rise of 0·70 m. These steps were built against a solid brick pillar which was the newel of the staircase proper. From the landing (pl. III *b*) the next flight of stairs, up to the landing (i.e. up to the S. corner of the newel), was built over a solid mass of brickwork; the construction was similar to that of the passage steps, but the timbers of the step fronts were 0·14 m. square, so that the six steps gave a total rise of 0·84 m. Beyond this point the stairs were carried up over timber supports (the marks of which could be seen on the brick walls) apparently at the same gradient; assuming that the stairs starting at the landing ran once round the newel so as to end up facing along an upper passage over that of the ground-floor, their total rise would have been 4·06 m. from the lobby or 4·50 m. above the level of the courtyard; if there was a further flight up to a door giving access to the state-room of the *piano nobile* we must add 1·25 m. to the total rise. The evidence already cited for the height of the ground-floor rooms is therefore confirmed.

In the cupboard under the stairs were found a steatite cylinder seal (AT/39/129, pl. IX), a terra-cotta figurine of a cow (AT/39/127), a bronze pin, three rough stone pestles, and a quantity of broken pottery, plates, and jars, of coarse ware. Higher up in the rubble and apparently fallen from the room above were a bronze dagger (AT/39/125) and a steatite lidded box (AT/39/124, pl. VIII).

Of the other ground-floor rooms of the central block the irregularly shaped room 18 (pl. VI *c*) was undoubtedly an unroofed court or light-well; it had served for domestic purposes connected with the adjoining rooms 15 and 16. The walls had been plastered. The floor was of clay with a thin overcoat of concrete. Against the NW. wall was a bench of large basalt blocks 0·27 m. high, smoothly plastered with cement. Against the SE. wall was a large basalt trough or basin with a spout in front of which a flat stone with a circular hole for a drain-intake was let into the concrete floor; below the stone was a stone-built drain which connected with that from the basin in room 15 and with another from the outlet of the basin in the east corner of the court and then went out through the doorway, under the passage and through the outer wall of the palace (which was also the citadel wall) to empty on the glacis. The basalt basin in the east corner of the court was sunk flush with the floor with an outlet in the NW. side. Between the basin and the SE. wall there was a fine cement face brought down in a curve over the edge of the stone, in which was a shallow circular depression intended as a stand for a large round-bottomed vessel; between the basin and the NE. wall there was a similar cement surface, rather above floor-level, in which were two shallow oblong depressions sloping inwards and with outlets to the basin, very much like the soap-troughs of a modern pedestal wash-basin.

Spread over the greater part of the court were large slabs of floor concrete laid face downwards; under them was a layer of burnt brick rubble and broken pottery (also burnt) lying on the (poor) floor of the courtyard. These fragments did not belong to the court itself but must have come from an upper room; but why they had been spread out, intentionally, over the court after the destruction of the palace, and why they had been laid upside down, I cannot explain.

A bronze knife-blade, a bronze duck-headed pin, a steatite kohl-pot (AT/39/251, pl. VIII), a serpentine pestle, and a few broken clay pots were found in the court.

Room 15 had a very good cement and concrete floor; in the SE. wall there were set three basalt orthostats obviously connected with the drain and intended to protect the wall from damp. The drain consisted of a flat stone with two intake-holes sunk flush with the floor. In the east corner was a terra-cotta tank 0·60 m. deep sunk in the floor but rising 0·20 m. above it; it was reinforced externally with cement. Two bronze knives or daggers were found in the room.

Room 16 had no particular features. The pottery found in it was of superior quality to that generally encountered—no store-jars or cooking-pots, but fine grey or drab wares, three or four painted fragments including an example of the handled jug with 'eye' ornament on the trefoil rim, a small pot of glazed frit, and a finely burnished clay copy of a stone or ivory circular toilet-box with swivel lid.

Rooms 17 and 19. The purpose of these two rooms remains an unsolved mystery. Originally the only entrance was by a normal doorway in the SW. wall of room 19. In the thickness of the doorway there began a flight of stairs leading downwards between walls of rough limestone liberally (though irregularly) plastered with cement (pl. V *a*); each step was built with a half-log for the front of the rise, bedded on cobbles and clay, with behind it a filling of cobbles and clay to make the tread, the whole being rendered with white plaster; the average rise was 0·25 m. and the depth of the step 0·40 m. At the bottom of the steps (2·30 m. below the level of the floor of room 18) there was a doorway (pl. V *b*) of which the jambs and the lintel were each formed of a single slab of finely worked basalt; the door itself was of basalt, turning on boss hinges, opened inwards to the stairs, and was secured by a peg bolt inserted in a hole in the threshold. On the other side of the door was a square shaft-chamber (room 17) with a floor of very solid concrete and walls with three courses of basalt ashlar masonry, cement pointed, with mud-brick above rising to a height of nearly 3·00 m.; there was no sign of any roof. Up to the level of the top of the stone lintel the shaft was filled with peculiarly clean earth, beaten hard and for the most part at least undisturbed.[1]

On the floor in the north corner there was a heap of wood ash and lumps of charred wood, numerous animal bones, most of them heavily burnt; on the top of the pile three alabaster vases (pls. VI *b* and VIII *b*), three clay vessels, and under it the remains of another alabaster vase destroyed by fire. On the floor surface there were no marks of burning, so that the bones, etc., must have been burned elsewhere and collected from the pyre and deposited here. Against the SW. wall, near the west corner, there had been placed a wooden box (1·35 m. × 0·65 m.) containing four human skeletons (pl. VI *a*) so arranged that there was a skull in each corner,[2] the leg bones overlapping in the middle; there were no objects with the bodies, nor were any others found in the shaft. Only against the stone door there was a heap of large stones (pl. V *b*), clearly a blocking, which must have been piled up before the earth filling was put into the shaft. Along the top of the stone lintel there had

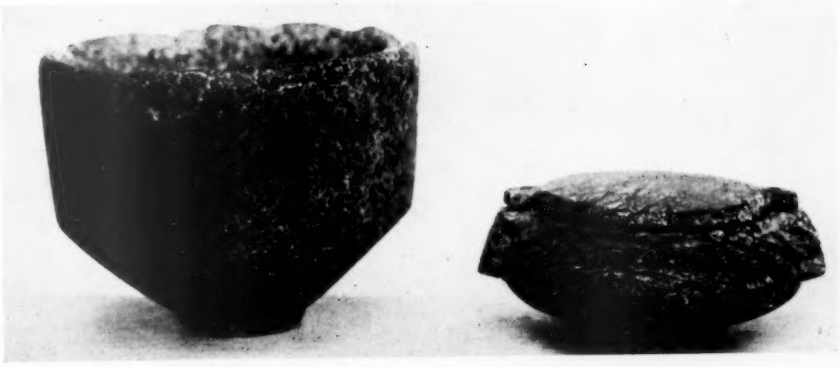
[1] There was a slight pocket in the north corner, not very deep.

[2] A fragmentary skull of a small child found here just before the box was recognized probably also belonged to it; it lay immediately above the box at its SE. end.

a. AT/39/280. Red porphyry lamp of Cretan type

AT/39/244 AT/39/261 AT/39/252 AT/39/251

b. Stone vases

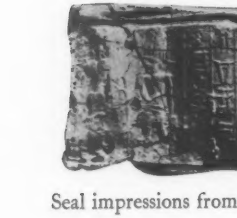


AT/39/147 AT/39/124

c. Stone cup and pyxis

AT/39/240

Seal impressions from Palace, room 11



AT/39/17

AT/39/129

AT/39/184

AT/39/200

AT/39/201

AT/39/215

been a wooden beam and the plaster of the walls had been brought round over the ends of it; it was enough to show that above the doorway there had been a wooden screen cutting off the staircase from the shaft.

The top of the stone walls of the staircase forms a straight horizontal line 2·15 m. above the door lintel, and along this line the plaster is brought outwards in a curve; above the stones there is only earth above which comes (on either side of the staircase) a floor of white cement 0·15 m. above them; it would appear that there had been a wooden ceiling over the stairs which supported a cement floor. The staircase was found by us filled with the burnt brick debris of the palace walls; it seems fairly clear therefore that the stairway had been empty and that its wooden ceiling had given way under the weight of the falling ruins, whereas the cement floor on either side, resting on solid filling, survived. Other evidence confirms this. The original doorway in the SE. wall had been blocked up by a wall of normal thickness (the break in bond was clear, and the new bricks were of a different texture from the old) which actually obliterated the top step of the stairs; the latter therefore could no longer be used and must have been covered from sight and the wooden roof and cement floor probably date from this time. At the same time a new door, unusually narrow, was cut through the NE. wall to give access from room 18; apparently there was still a door between rooms 19 and 17, but about the latter room we know nothing at all—if it had had a floor that had disappeared entirely,[1] and there was no plaster left on the walls. All that we can say is that the staircase and the shaft were constructed with very great labour at the time of the building of the palace (whose walls go down to rest on the stone masonry of the shaft), occupy a relatively large area in the domestic quarter, and must have been very important. At some time or another during the lifetime of the palace the boxful of dead bodies and the burnt offerings were deposited in the shaft, a blocking piled against its stone door, and the shaft itself filled with clean earth with, presumably, something on the top of it. The stairs leading to the shaft were now useless and were roofed over and a floor laid above them, turning the stair-well into a small room; as if in obedience to some taboo, the doorway to the stairs was blocked and masked and a new door to the room was made. At a later time the inner chamber over the shaft was desecrated and even its floor destroyed, but the lower part of the shaft filling was left undisturbed.

Whether rooms 22, 23, and 24 were connected with the mysterious stair-and-shaft complex as their position seems to suggest there was no further evidence to show; the rooms were very ruinous and their contents few—in room 22 broken pottery only, in room 23 nothing, in room 24 three broken terra-cotta figurines and a seven-rayed bronze star.

The central block of the palace ended (with the possible exception of rooms 23 and 24) with the SE. wall of the courtyard (room 18). Beyond this, to the SE., the passage continued as before, but the buildings were of one story only, their walls

[1] It might be suggested that the fragments of concrete paving found in room 18 came from here, but it is hard to explain why anyone should have been at pains to do that and not to have dug down (if they were treasure-hunters) into the lower filling of the shaft—unless indeed the real treasure of the shaft was only just below the floor and having secured that the robbers knew that there was nothing else worth digging for

were relatively thin and constructed without the timber framing common to the NW. and central blocks, and the rooms were all of a strictly domestic character. There was a progressive rise in floor-level, to which corresponded a gradual slope of the floor of the passage, from NW. to SE. Whereas the passage was protected by the mass of rubble from the citadel wall and the lower parts of its walls remained in good condition, the small amount of debris from the thin-walled one-story rooms afforded scanty cover to the rest of the site and its destruction was proportionately severe. After the burning of the palace the NW. and central blocks were represented by lofty mounds of solid brick rubble with a depression (the great courtyard) between them; the SE. block formed a much larger depression between the central block mound on the one side and the high ramp of the ruined citadel wall on another which, having no exit, was turned by the winter rains into a morass. As a result people of succeeding generations were slow to build here, and the empty space was used as a midden for the digging of rubbish-pits. The area was so honeycombed with pits dating from the periods of levels VI and V that over the greater part of it no trace of the level VII buildings was left.

Just enough survives to give the general plan—a courtyard (room 28) surrounded by chambers through one of which (27) access to the courtyard was obtained from the passage; in a later stage this door was blocked by a screen wall. In the same room was a terra-cotta tank 0·40 m. deep let into the floor, which had originally been of cement but had perished; only the foundations of the walls remained together with the threshold of the door leading into room 26 and vague traces of a door into the court.

Room 30 had in its north corner a round unlined pit 1·70 m. deep filled with clean soil, its bottom of well-worked clay directly on which were traces of vegetable matter, possibly crushed grain. On the floor, which near the pit was of clay only, there lay six small basalt orthostats (0·40 m. × 0·25 m.) not in position; towards the south corner of the room the cement pavement was well preserved and gave the line of the SE. and SW. walls (which had disappeared) and of the doorway in the latter; let into the cement was a basalt slab 1·10 m. × 0·45 m., rising 0·05 m. above the floor (the cement was chamfered up against it), which appears to have been a bench; round it were a number of loose stones including two fragments from a diorite statue. Room 31, which had a simple mud floor, was remarkable for the stone implements which it produced—six small pounders, two hammers or pestles, a socketed hammer, a tie-on hammer, a whetstone, and two drill-handles. It was obviously a workshop.

Of the courtyard (room 28) there remained only a threshold showing the line of the SE. wall; against the NE. wall there was a big store-jar embedded in the floor and a rubbish-pit was on the (probable) line of the SW. wall. Two store-jars sunk in the floor in room 32 confirmed the evidence of the threshold regarding the limits of the courtyard, as they were almost certainly ranged along the wall.

There remains only the passage, divided by cross-walls with openings (there was no evidence of actual doors) into sections 14, 19, 25, and 29. Section 14, coming within the limits of the central block, was a passage pure and simple. But the continuation, which like the whole of the SE. block was a later addition to the

palace, was wider and served at once as a passage and as a succession of storerooms. In 19 there was a basalt tank 0·25 m. deep sunk in the floor; later a new clay floor was laid over the room and the tank was buried beneath it; it was filled with broken pottery, amongst which was a vase in the form of a bird in burnished brown clay, AT/46/180. The section 29 was a pottery store; the floor was covered with a thick layer of ashes and broken clay pots amongst which was a haematite cylinder seal, AT/46/199. From this section a narrow doorway led into 35, only part of which was excavated. If this quarter of the palace was at all symmetrical in plan, 35 should be the last section of the passage before the east corner of the domestic block; judging from the arrangement of the rooms NW. of the courtyard (28) there should have been a small room beyond 31 and the SE. wall of that, prolonged as the SE. wall of the large room 32, would have formed the enceinte wall of the palace.

WAR AND ARCHAEOLOGY IN BRITAIN

By B. H. St. J. O'Neil, M.A., V.-P.S.A.

With the outbreak of war in September 1939 many of the staff of the Ministry (then H.M. Office) of Works concerned with ancient monuments were drafted to other work, military or civil. Yet the tasks falling to the lot of their fellows, who were left at their normal desks, so far from decreasing, as their colleagues of other divisions often blandly suggested, were soon increased very far beyond their normal peace-time scope. It is true that work on the preservation of the structures of guardianship monuments dwindled slowly until it became insignificant in amount, but it never entirely ceased, because of a firm determination not to destroy the cadre of skilled foremen and masons which it would be extremely difficult to replace. The supervision of this work, therefore, remained as one task even in war-time.

1. Excavation of Ancient Sites

Work in connexion with the scheduling of ancient monuments was quickly brought to an end, but other work, which may be looked upon as its aftermath, quickly grew in importance and quantity. Had it been the case that all ancient sites were already scheduled, and had it been certain that every owner of land faced with a requisition notice from a service department of land which contained an ancient site would inform the Ministry of Works of the fact, there need have been no qualms about the destruction of sites without notice and without record. Since, however, comparatively few monuments are yet scheduled, it was clearly desirable to find some other means of ascertaining the proposals for the use of land by the service departments. This was foreseen nearly two years before the outbreak of war. In January 1938 there was a meeting of the heads of those ministries which were interested in the acquisition of land, chiefly for defensive purposes. A system of mutual consultation was agreed, to avoid confusion and overlapping, and normally a plan of the land in question was circulated to all interested ministries. This meant in practice that before the war the Inspectorate of Ancient Monuments was made aware of all proposals to acquire land on behalf of the Admiralty, the War Office, and the Air Ministry. Quite early in the war the War Office was forced to fall out of line. Owing to the vast amount of land which the army required, often in small parcels, it became necessary to deal with its acquisition locally. Great efforts were made to ensure even then that notification reached H.M. Office of Works in London, but with only partial success. An attempt at local liaison was not very effective.

Consequently throughout the war many of the smaller requisitions of land by the War Office never became known to the Ministry of Works in London. On the other hand, the Admiralty and the Air Ministry, who usually dealt only with large parcels of land, never ceased to abide by the arrangement of 1938, and by 1942 there had been established a comprehensive system of liaison between nine ministries which were interested in acquiring land. All plans sent by these ministries

were carefully scrutinized in case any ancient sites were affected, including those for Royal Ordnance factories and the camps and hospitals for the U.S. army. In all, over 16,000 schemes were scrutinized on maps or plans, 14,000 of them being of the War Department. By these means it was possible to see on paper most of the large areas of land which were used for war purposes. No one can claim that all such have been seen, because no such arrangement can be perfect, especially in war-time. Similarly no one can claim that all ancient sites on the land in question have been protected or excavated. The criterion was the marking of the ordnance maps, and many ancient sites are not yet marked on those maps. No other criterion could be used in the circumstances, since the schemes were normally secret, speed was essential, and the staff infinitesimal. Certainly so far as small areas of land have been concerned, such as those used by the army all over the country, very many escaped scrutiny, but this much must be added. The Controller of Lands at the War Office several times during the war issued orders designed to prevent or to minimize damage to ancient sites, and there is evidence that these orders had a good effect.

If an attempt be made to draw up a profit-and-loss account of the war years in their effect upon ancient sites, the profit is clear enough, as will shortly appear, but the loss is by no means so clear. There were stories about sites being destroyed, just as there were stories about historic buildings being wrecked by army occupation, but without a reliable eyewitness's account there was always a suspicion of gross exaggeration about sites, just as there was about houses. These are the cases of destruction without record known to the Ministry: one long barrow in Hampshire completely destroyed; parts of Cissbury Camp, Sussex, badly mutilated; craters for bomb disposal in Cadbury Camp, Somerset; an Iron Age site at Eynsham destroyed; some of the rampart of Poundbury Camp, Dorset, destroyed; a Romano-British site of ditches and rubbish-pits destroyed near Kimbolton; two Saxon cemeteries near Peterborough destroyed, one at South Luffenham, Rutland, without any record; two barrows at Eccles, Norfolk, probably destroyed. That is the sum total of information culled from official sources throughout the war and also as reported by county archaeological societies as a result of a circular letter on behalf of the Congress of Archaeological Societies.

Now turn to the credit side of the account. The large areas of land which were used for war purposes consisted mainly of factory sites, camp sites, and airfields. In the two former cases ancient sites could sometimes be avoided and left unmolested in the layout; in the cases of airfields no ancient site was ever safe anywhere near or on the line of the runways. Complete levelling of the surface was always essential to the war. Twice only in four years was resistance attempted to any Air Ministry proposal; in one instance it met with success, when the rampart of Membury Camp, Wiltshire, was preserved from destruction. In all other cases excavation under proper supervision was the rule; after that the site was consigned to destruction. Here it should be stated at once that this work was possible only through the wholehearted support of the staff of the Air Ministry, in London, at the offices of the superintending engineers, and on the various sites, where many of the engineers of the Air Ministry and of their contractors helped in many of those smaller ways

which make or mar such difficult work. They quickly realized that the archaeologists kept to a golden rule, never to impede the progress of their essential work. The archaeologists profited from constant contacts, which told them just how long they could spend on any particular site and how soon they ought to start on their next. Without the Air Ministry's help nothing could have been done. With it not only has something been saved from the destruction of war; there have been certain positive gains to archaeology. The nation owes much to the Air Ministry for this work, as for so much else.

The first excavation on any defence site took place before the start of the liaison system which has been mentioned. It was that which Sir Cyril Fox undertook at the request of H.M. Office of Works at the Royal Ordnance factory at Bridgend in 1937. The results of this work on the two Bronze Age barrows there are now well known, since they have been published in *Archaeologia*, lxxxvii.

During the remaining years of peace the expansion of the armed forces, particularly the R.A.F., necessitated the use of a few areas which contained ancient sites. Thus on Crichel Down and Launceston Down, Dorset, some thirty-four round barrows lay on a bombing range. Their destruction was not inevitable but possible, especially in the central area. Professor and Mrs. Stuart Piggott most kindly undertook for H.M. Office of Works an excavation of some eighteen barrows and published the results in *Archaeologia*, xc (47–80). Similarly, one round barrow within the Admiralty factory at Caerwent, Monmouthshire, was excavated by Dr. H. N. Savory. The results have been published in *Archaeologia Cambrensis*. At St. Eval, in Cornwall, Mr. C. K. C. Andrew excavated a round barrow on the airfield.

With the outbreak of war even more and more land was required, especially for airfields, which themselves became bigger and bigger. All of the projects for new airfields for the R.A.F. were submitted to the Inspectorate of Ancient Monuments, and in about 10 per cent. or less of the cases known ancient sites were affected. In a few cases which were in likely archaeological areas, but which showed no such sites on the map, a special examination was made. Generally speaking, however, the markings on the O.S. maps had to be the criterion. It is thus possible that ancient sites hitherto unrecorded or known only to local antiquaries were destroyed on airfields without adequate investigation. It is known that two small, ruined round barrows eluded investigation and were destroyed without record, one at Hurn in Hampshire and one at Roborough Down in Devon. It is probable that a few other sites were engulfed in later additions to existing airfields, because liaison in such matters, which never came to the notice of the Air Ministry in London, was much more difficult to maintain. All local offices of the Air Ministry had instructions to inform the Inspectorate of Ancient Monuments of any local proposals to interfere with ancient monuments marked on the map. Some of them did so, as in the cases of Hurn in Hampshire, Honington and Martlesham in Suffolk, Manston in Kent, Charmy Down and North Stoke in Somerset.

With these few reservations in mind, it may be claimed that very nearly all the known ancient sites on new airfields were scientifically examined. In spite of the speed of construction of the airfields it was usually possible to complete the excavation without impeding the Air Ministry's work in any way. Only occasionally was

it necessary to hustle off the site, although there were often false alarms to that effect. Very often there was time to pay most particular attention to an important site, as for instance at Burn Ground, Northleach, where Mr. Grimes spent eight months on the long barrow. It should be added that this and many others of the excavations took place wholly or partially in midwinter, and that the labour force often consisted of one old man.

For one brief period there were as many as seven or eight official excavations taking place at one time, and the scarcity of supervisors is shown by the fact that two pairs of the excavations were at that time each under one supervisor's direction. This method was only adopted under extreme pressure. For such work it was necessary to go outside the Ministry. The Ministry was, and is, extremely grateful to Sir Cyril and Lady Fox, to Mrs. Piggott and Mr. C. K. C. Andrew who often came to the rescue, and to others who helped on a particular site during the war, Mrs. Chitty, Miss K. Hodgson, Mr. R. J. C. Atkinson, Mr. G. C. Dunning, Mr. D. B. Harden, Mr. E. J. Hildyard, Mr. Guy Maynard, the late Mr. Harold Peake, and Mr. W. J. Varley. Mr. W. F. Grimes was seconded to the Ministry from the Ordnance Survey Office early in the war and ever afterwards until October 1945 was continuously in the field without more than one week free at any time between excavations. Mrs. Audrey Williams, who early in the war several times came willingly and at very short notice to take charge of work anywhere in the country, in the latter part of the war, as a temporary member of the staff of the Inspectorate, was also almost continuously at work on excavations. Since Mrs. Williams and Mr. Grimes are no longer with the Ministry, it is permissible to express a deep appreciation of their skill and tenacity.

Conditions were seldom ideal. The work was always urgent. It could not be put off until fine weather came. Sometimes it could not be put off until the snow melted; the snow had to be swept away, lest the site should be swept away before the photographs had been taken. Summer or winter work went on. For the supervisors there was no choice. If one chanced to be asked to work in winter, he or she merely shuddered and carried on. In the final event everything depended upon these supervisors. Without them the work could not have been done, the scientific record would have been lost for ever. For the archaeological gain which is about to be described, everything is owed to those who have been mentioned. They deserve the thanks of all archaeologists.

Excavations, often major undertakings, were carried out on thirty-six airfields of the R.A.F., on one other R.A.F. site, on three Admiralty sites, on four W.D. sites of various kinds, on one Ministry of Supply site, and on two factory sites controlled by the Ministry of Works. This makes a total of forty-seven excavations, all but four of them during the war. Besides these it was possible in the latter part of the war to pay some attention to ancient sites which were being destroyed by gravel pits, stone quarries, or opencast coal working. There was, of course, a great increase in output from such pits and quarries during the war, and it may be that a number of good sites was destroyed before adequate examination could be arranged owing to the preoccupation with airfields. During the period 1943–5 there were twelve excavations at such sites. The grand total, therefore, is: 59 excavations in

all, 55 of them during the six years of war. Since archaeology does not differentiate between an airfield and a quarry, this programme of excavation will henceforward be considered as a whole.

The sites themselves may be grouped thus in chronological order. Two long barrows or rather long cairns were completely excavated by Mr. Grimes, both in the Cotswolds, one near Bibury and the other near Northleach. One hundred and three Bronze Age round barrows were excavated, many of them completely; twenty of these were in Cornwall and eighteen in Hampshire. Two stone circles of presumed Bronze Age date were also examined.

Four small Early Iron Age camps received prolonged attention, as did five habitation sites of the period with the usual pits, gullies, post-holes, etc. The Heath Row site also dates from this time.

Apart from sections across Roman roads the only sites of the period involved are three in number, two in the north of England, one a fort and signal station at Cardurnock in Cumberland, the other an oblong earthwork at Riccall in Yorkshire, and a Roman villa between St. Albans and Watford, which amply repaid the 20 months of work spent upon it.

Offa's Dyke and three other linear earthworks received attention, one near Newbury in Berkshire leading to further discoveries in connexion with Silchester. Saxon burials were found just outside the Neolithic long cairn near Northleach, but unfortunately the examination of one of the small cairn cemeteries of Glamorgan yielded no evidence of date.

Luffield Priory in Northamptonshire was searched for in vain; although its site was certain, almost all real traces of it had been removed. Other medieval sites were five moated house sites, all normal save one at Nuthampstead, Hertfordshire, of which the construction had never been completed, and a most interesting small castle site at Membury in Wiltshire.

The most exciting small finds were a pair of gold ear-rings of the Bronze Age in a barrow at Radley, Berkshire, and a twelfth-century ivory plaque of the Virgin and Child from Nuthampstead. The most startling site was that of the Celtic temple at Heath Row, near Hounslow.

The results of some of these excavations have already been published; actually all except one of the pre-war excavations (St. Eval, Cornwall) have been published. Not a little of the war-time work is also already on permanent record, and even more of it was described in lectures during the war, but it was then never possible to give any indication of the reason for the work being undertaken because of the requirements of the censor. The Air Ministry were most favourable and agreed to publication in war-time, but on the condition that there was no mention of any Ministry and no reference to the cause of the work. In this manner Mrs. Piggott's work on several Hampshire airfields, Beaulieu Heath, Stoney Cross, and Hurn, is in print, as are the reports on all the work undertaken in Wales by Sir Cyril and Lady Fox, by Mrs. Williams and Mr. Dunning. It is fitting that a work begun in Wales should also be completed there first. It had been the hope of the Ministry that more reports would have been published in war-time, but this was prevented to a certain extent by the scarcity of paper. There is also the fact that those super-

visors, who had charge of so much of the work, were kept so hard at work, that they have been quite unable to put the finishing touches to their reports.

The finds from the excavations normally remain the property of the owners of the land, since in most cases it has only been requisitioned, not bought. Their wishes are being respected in the disposal of the finds, but it is usual for them to desire that disposal be to the appropriate local museum.

The notes which follow give a complete list of the sites excavated under this scheme of work in order of archaeological periods. Where sites yielded finds of more than one period, this fact is noted by cross-references under the appropriate periods. References to publication, actual or intended, are given, as also the location or destination of the finds, where this is known. The dates in brackets at the end of entries indicate the time when the excavation took place.

NEOLITHIC AND MEGALITHIC

England

Gloucestershire

Bibury. Complete uncovering of a long cairn at Saltway Barn with many internal revetment walls. Within the cairn there was a chamber of beehive construction, similar to another near by. The finds, which are to go to Gloucester Museum, included indeterminate prehistoric potsherds. The report is being prepared for official publication by Mr. W. F. Grimes. (Winter 1939–40.)

Hampnett. Complete excavation of a long cairn with transeptal gallery and cross-passage, called Burn Ground. There was definite evidence that the low double revetment wall of the cairn was not intended to be visible. The finds, which are to go to Gloucester Museum, include Neolithic sherds, human remains, and a saddle quern. The report is being prepared for official publication by Mr. W. F. Grimes. (See also Bronze Age and Dark Ages.) (Winter 1940–1.)

Middlesex

Heath Row. A few hearths with Neolithic B pottery, much of it profusely decorated, were found within the later enclosure. The finds are in the London Museum. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Early Iron Age.) (May–Sept. 1944.)

Scilly

St. Mary's. A chambered round barrow of normal Scilly type with kerb and passage-grave, opening to the east, badly damaged. Remains of two lug-handled Neolithic or Bronze Age vessels were found. The report is being prepared for official publication by Mr. W. F. Grimes. (April–May 1942.)

Surrey

Thorpe. Neolithic pottery was found. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Early Iron Age.) (Oct. 1944–Oct. 1945.)

BRONZE AGE

England

Berkshire

Radley. Two round barrows were excavated in Barrow Hills Field (Nos. 4 to 7 of *Oxoniensia*, i, 8). No. 4 had a more or less ovoid ditch enclosing two earth barrows. A, the smaller (west) mound, covered a Beaker burial in a pit. With a male skeleton were found a B beaker (with

collar), a pair of gold ear-rings (basket type), and several arrow-heads. B, the bigger mound, covered a central cremation burial with a small bronze knife-dagger. Nos. 5 and 6 proved barren of finds, but in each case the presence of an earth barrow within the ditch was established. Work on no. 7 was restricted by crop. A single cutting located the ditch on the north. This barrow was later excavated by O.U.A.S. A barrow (now no. 17), unsuspected from the air-photograph, existed north of no. 7 near the north hedge of the field. Two burials—no grave goods—were salvaged during mechanical operations. The finds are in the Ashmolean Museum, Oxford. The report is being prepared for an Ashmolean Museum Publication by Mrs. Audrey Williams. (9th March–30th June 1944.)

Cornwall

Davidstow Moor. Some twelve round barrows were excavated, the highest standing 2 ft. above the surface of the moor. Some were flat-topped, unlike any formerly examined in Cornwall, and yielded considerable information about Early to Middle Bronze Age burials and burial customs. The finds will be placed in the County Museum, Truro. The report is being prepared by Mr. C. K. C. Andrew. (See also under Medieval.) (Oct. 1941–April 1942.)

Harlyn Bay. A round barrow at Cataclews was excavated. A low central cairn was covered by a capping of sandy soil which yielded sherds of a cinerary urn of the Middle Bronze Age. The finds will be deposited in the County Museum, Truro. The report is being prepared by Mr. C. K. C. Andrew. (28th March–13th April 1944.)

Lousey Barrow. This was but a partial excavation of a double Beaker burial of unusual type and an elaborate barrow structure. The report is being prepared by Mr. C. K. C. Andrew. (Autumn 1940.)

Perranporth. A round barrow on Trevellas Downs had a turf structure and an intact ritual deposit. There were a few sherds of a bucket urn. The report is being prepared by Mr. C. K. C. Andrew. (Summer 1940.)

Portreath. A round barrow at Nancekuke, probably of the Early Bronze Age, showed fine turf construction. The grave was rifled *c.* 1926, but in the ditch there were found traces of a Bronze Age wooden shovel and a perforated and cup-marked slate. The report is being prepared by Mr. C. K. C. Andrew. (Summer 1940.)

St. Eval. A round barrow of turf construction covered the site of a funeral pyre, dressed with pounded quartz. A cremation is assumed to have been in the centre, but to have been destroyed *c.* 1811. The report is being prepared by Mr. C. K. C. Andrew. (1938.)

Treligga. Nine sites were dug, but five yielded no evidence of use in ancient times. (1) A round barrow, 25 ft. in diameter, with a kerb of quartz boulders, had four cremations in crannies of the rock covered by a cairn of slate, mutilated, which may have held a central ossuary. (2) A walled cairn, 18 ft. in diameter, with curious central ossuary in a rock-cut cavity, covered by a cupola of dry slate corbelling with a heavy slate capstone. Part of a Middle Bronze Age urn was *in situ* between the ossuary and the side of the cairn. There were three secondary cremations under the kerb. (3) A round barrow, *c.* 55 ft. in diameter, with rock-cut ditch. Constructed of clay. It had inside it a walled cairn. Off centre, but within the wall on the west, in a small cist there was a small vessel, inverted, and ornamented with two cordons. (4) A slate knoll, approximately the shape of a small long barrow, 150 ft. long, had an oval wall and filling on its crown, at the centre of which, on the infilling of a small pit, lay a decorated Bronze Age vessel, covered by a slate slab. The report is being prepared by Mr. C. K. C. Andrew. (Spring 1941.)

Dorset

Crichel Down. Eighteen round barrows were excavated, for which see S. and C. M. Piggott in *Archaeologia*, xc, 47–80.

Gloucestershire

Chedworth. Two round barrows were excavated. The southern of the two was a simple earthen mound with scraps of cremated bone in a small pit at the centre. The northern barrow was really a cairn with double revetment walls, built in long barrow technique. The centre had been previously disturbed, but there were remains of a crouched skeleton in a cist. The report is being prepared for official publication by Mr. W. F. Grimes. The finds will be deposited in Gloucester Museum. (See also under Roman.) (1941.)

Hampnett. A series of six round cairns close to the south and east sides of the long cairn at Burn Ground yielded Middle Bronze Age pottery, a bronze awl, and a plano-convex worked flint, all of which will be deposited in Gloucester Museum. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Neolithic and Dark Ages.) (1940–1.)

Hampshire

Beaulieu Heath. Ten round barrows were excavated. For the report see C. M. Piggott in *Proc. Prehist. Soc.*, ix, 1–27. (See also under Dark Ages.) (Summer 1941.)

Hurn. Three round barrows were excavated. For the report see C. M. Piggott in *Proc. Hants. F.C.*, xv, 248–62. (Spring 1941.)

Stoney Cross. Five round barrows were excavated. For report see as Beaulieu Heath above. (See also under Roman and Dark Ages.) (Winter 1941–2.)

The finds from all these excavations are in Tudor House Museum, Southampton.

Lincolnshire

Ludford Magna. Two round barrows of clay, one also of turves, were excavated; the former had probably two internal rings of stones, the latter had an internal ring of small stakes. Both had been rifled. The report is being prepared by Mrs. Audrey Williams. (See also under Roman.) (Nov. 1942–Jan. 1943.)

Northamptonshire

Silverstone. A round barrow was excavated. The centre had been completely dug out in earlier times, but the character of the mound suggested a Bronze Age date. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Medieval.) (Winter 1941–2.)

Oxfordshire

Stanton Harcourt. A complicated site included a stone circle of the 'embanked' type, to which one of the Devil's Quoits belonged; for this see Grimes in *Oxoniensia*, viii and ix, 19–63, wherein also is the report on the excavation of three ring ditches, one of which yielded a Beaker. The report on the excavation of a Bronze Age round barrow and two small ring ditches by Mr. D. B. Harden will appear in *Oxoniensia*, x. All the finds are in the Ashmolean Museum, Oxford. (See also under Early Iron Age.) (Summer 1940.)

Somerset

Charmy Down. Four contiguous or overlapping round barrows of earth or stone were excavated, the eastern and largest being a bell barrow. Cremation burials of Middle Bronze Age had been disturbed in ancient and modern times. The report is being prepared for official publication by Mr. W. F. Grimes. Two barrows were excavated later. In one a circular wall enclosed the central area; this in turn was encircled by a stone ring and the whole covered with earth. The mound had been disturbed in Roman times. The other barrow was a simple structure, much robbed, but the primary, and only, burial of Early to Middle Bronze Age was intact.

The report is being prepared by Mrs. Audrey Williams. (May 1940 and 10th Dec. 1941 to 5th Jan. 1942.)

North Stoke. A small cairn, much disturbed in the past, was excavated on the racecourse. There were a few sherds of a cinerary urn. The report is being prepared by Mrs. Audrey Williams. (Dec. 1943.)

Ston Easton. Five round barrows were excavated. All yielded evidence of Bronze Age date. The report is being prepared by Mrs. Audrey Williams for the *Proc. Somerset Arch. Soc.* (1941.)

Suffolk

Honington. A large round barrow was excavated. It was composed entirely of earth and yielded only a few flints. The report is being prepared for official publication by Mr. W. F. Grimes. (July 1943.)

Martlesham. A round barrow of sand, previously much mutilated, was excavated. The report is being prepared by Mr. G. Maynard for the *Proc. Suffolk Arch. Inst.* The finds are in the Ipswich Corporation Museum. (May–June 1942.)

Yorkshire

Carnaby. An indeterminate mound yielded some Bronze Age pottery and flints. The report is being prepared by Mr. E. J. Hildyard. (Dec. 1942.)

Wales and Monmouthshire

Breconshire

Sennybridge. A round barrow and a stone circle were excavated. For report see Dunning in *Archaeologia Cambrensis*, 1943, 169–94. (June 1940.)

Glamorgan

Blaenavon. Two much-ruined round cairns were examined. The report is being prepared for official publication by Mr. W. F. Grimes. (4th–13th Oct. 1943.)

Bridgend. Two round barrows were excavated. The finds are in the National Museum of Wales. For report see Fox in *Archaeologia*, lxxxvii, 129–80. (1937.)

Fairwood Common. Two round cairns were excavated. The finds are in the Museum of the Royal Institution of South Wales, Swansea. For report see A. Williams in *Arch. Camb.* 1944, 52–63. (Oct. 1940–March 1941.)

Llandow. Five round barrows were excavated. The finds are in the National Museum of Wales. For report see Fox in *Archaeologia*, lxxxix, 89–126, *Antiq. Journ.*, xxi, 97–127, and *Antiquity*, 1941, 142–61. (Winter 1939–40.)

Monmouthshire

Crick. One round barrow was excavated. The finds are in the National Museum of Wales. For report see Savory in *Arch. Camb.* 1940, 169–91. (Summer 1939.)

Pembrokeshire

Talbenny. One round barrow was excavated. The finds are in the National Museum of Wales. For report see Fox in *Arch. Journ.* xcix, 1–32. (Summer 1941.)

Scotland

Ayrshire

Monkton. An urn field was partially excavated. The finds are in the National Museum of Antiquities, Edinburgh. For the report see Webster in *Proc. Soc. Ant. Scot.* lxxviii, 131–4. (Nov. 1943.)

EARLY IRON AGE

England

Dorset

Marnhull. An open settlement was partially explored. There were post-holes of two huts and various gullies and pits. The pottery was chiefly of Iron Age A 2 with some of Iron Age B and C. There were also Iron Age contracted and extended burials in pits. The report is being prepared by Mrs. Audrey Williams for the *Proc. Dorset Arch. and N.H. Soc.* The finds will be in Dorset County Museum. (See also under Roman.) (Winter 1944–5.)

Kent

Manston. A series of pits and occupation hollows yielded quantities of Early Iron Age pottery from A and early B to Belgic. The report is being prepared for official publication by Mr. W. F. Grimes. (Winter 1943–4.)

Hertfordshire

Park Street. Below the remains of the Roman villa several floors of Belgic huts were found. The finds are in the Verulamium Museum, St. Albans. For report see H. E. O'Neil, *Arch. Journ.* cii, 21–110. (See also under Roman.) (19th Oct. 1943–7th July 1945.)

Middlesex

Heath Row. The site examined here was not marked on the O.S. maps as an antiquity, but is briefly mentioned in the Inventory of the Royal Commission on Historic Monuments. It was a simple quadrangular enclosure (actually a parallelogram) defended by a single bank and ditch, much ploughed out, having internal dimensions of about 300 ft. each way. The whole area was stripped, and its main elements were seen in their entirety as dark marks in the subsoil. The huts, all enclosed by penannular gullies, were ranged around the northern edges of the enclosure; the southern half seems to have been blank apart from minor traces of occupation. Here to the west side—more or less isolated from the rest—stood the 'temple', which consisted of a double structure, a central shrine with an enclosing colonnade, the overall dimensions of which were about 30 ft. (E. to W.) by 15 ft. The posts of the colonnade had frequently been renewed in places. The resemblance of the plan to that of the classical Greek temple is obvious enough, but the attendant problems have yet to be examined in detail. The pottery, as yet also awaiting detailed study, belongs to an early phase of the Iron Age. The finds will be in the London Museum. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Neolithic.) (May–Sept. 1944.)

Northamptonshire

Draughton, alias *Harrington.* A small circular enclosure with single bank and ditch was completely excavated. It contained three circular huts and pottery of the Early Iron Age. The finds will be in Northampton Museum. The report is being prepared for official publication by Mr. W. F. Grimes. (July–Oct. 1942.)

Oxfordshire

Langford Downs, Lechlade. Three small, contiguous, ditched enclosures were excavated; the plan had been repeated in three quickly successive phases. There were post-holes of a round house in one enclosure and of an oval house in another. The pottery was partly in the Iron Age A tradition, but chiefly Belgic. A line of holes, prominent in the air-photograph, were found to be later than the enclosures, but undated. Five ring ditches were barren save for a cremation burial with a Belgic bowl in the silted-up ditch of one ring. The report by Mrs. Audrey Williams is in the press (*Oxoniensia*). (13th Sept.–14th Dec. 1943.)

Linch Hill, Stanton Harcourt. For a settlement site of this period see Grimes in *Oxoniensia*, viii and ix, 19–63. (See also under Bronze Age.) (Summer 1940.)

Baird Mill, Stanton Harcourt. Part of a small, rectilinear enclosure of one period was excavated. There were post-holes of part of a circular hut in the enclosure and of a bigger semi-circular house outside it. Pottery of Early Iron Age A 2 was found in the ditch and in pits. The report is being prepared for *Oxoniensia* by Mrs. Audrey Williams. (6th June–29th July 1944.)

Shropshire

Ebury Camp, Uffington. Two sections were cut across the bank and ditch. A hearth lay under the bank, but there were no datable finds. The report is being prepared by Mr. R. S. Simms. (1944.)

Surrey

Thorpe. An open village site with pits and drainage gullies for huts was excavated. Pottery of all stages of the Early Iron Age and into the Roman period, as well as some of Neolithic date, was found. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Neolithic.) (Oct. 1944–Oct. 1945.)

Wales and Monmouthshire

Cardiganshire

Henllan. A small promontory fort was excavated. The finds are in the National Museum of Wales, Cardiff. For report see A. Williams in *Arch. Camb.* 1945, 226–40. (30th April–22nd June 1942.)

Pembrokeshire

Clegyr Boia, St. Davids. A small camp, partially excavated a generation ago, was again examined. It had a single rampart with inner and outer stone revetment walls and an impressive interned entrance with double gates, which closed on a stone stop. The post-holes of a pre-rampart hut were found north of those of a second hut inside the rampart on the south. The hut floors produced a quantity of small sherds, all apparently of prehistoric character. Similar fragments came from a large rock-cut midden, where the only later sherd was a scrap of Samian ware. The report is being prepared for *Arch. Camb.* by Mrs. A. Williams. (16th March–12th Aug. 1943.)

ROMAN

England

Cumberland

Cardurnock. A small Roman fort, 3 Roman miles west of Bowness-on-Solway, was excavated. Hadrianic pottery was associated with the first phase of occupation, which yielded traces of two barrack buildings. Later in the second century the fort was much reduced in size and then contained only one barrack. There was also occupation in the fourth century. The report is being prepared by Miss K. Hodgson. (1943.)

Dorset

Marnhull. Romano-British occupation with a rectangular 'house' was found above that of the earlier period. The finds will go into Dorset County Museum. The report is being prepared for *Proc. Dorset Arch. and N.H. Soc.* by Mrs. Audrey Williams. (See also under Early Iron Age.) (Winter 1944–5.)

Gloucestershire

Chedworth. A Roman road was trenched. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Bronze Age.) (1941.)

Hampshire

Stoney Cross. A Roman road was planned. For report see C. M. Piggott in *Proc. Prehist. Soc.* ix, 3. (See also under Bronze Age and Dark Ages.) (Winter 1941–2.)

Hertfordshire

Park Street. A Roman villa was excavated. The finds are in the Verulamium Museum, St. Albans. For report see H. E. O'Neil in *Arch. Journ.* cii, 21–110. (See also under Early Iron Age.) (19th Oct. 1943–7th July 1945.)

Lincolnshire

Colsterworth, alias *North Witham.* A roughly rectangular enclosure was examined. It contained a number of huts and gullies, and one or two pits. A smelting site, accidentally revealed, was also investigated. The report is being prepared for official publication by Mr. W. F. Grimes. The finds will be placed in Grantham Museum. (See also under Medieval.) (Oct. 1942–June 1943.)

Ludford Magna. An occupation site was partially excavated. The report is being prepared by Mrs. Audrey Williams. (See also under Bronze Age.) (Nov. 1942–Jan. 1943.)

Oxfordshire

Crawley. Akeman Street was trenched. For report see R. J. C. Atkinson in *Oxoniensia*, vii, 109–11. (March 1940.)

Wiltshire

Membury. Signs of early Roman occupation were found under the medieval site. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Medieval.) (Summer 1941.)

Yorkshire

Riccall. Some oblong ditched enclosures were excavated. The ditches yielded pottery of the third and fourth centuries A.D. The report is being prepared by Miss K. Hodgson. (Sept.–Oct. 1942.)

Thorp Arch. A Roman road was trenched. There were no finds. The report is being prepared by Mrs. D. J. Chitty. (May 1940.)

Scotland

Caithness

Skitten near Watten, Wick. A broch was excavated. The report is being prepared by Mr. C. S. T. Calder. (1940.)

DARK AGES

England

Berkshire

Greenham Common. A linear earthwork was examined. The finds are in the Borough Museum, Newbury. For report see H. J. E. Peake and B. H. St. J. O'Neil in *Arch. Journ.* c, 177–86. (Spring 1941.)

Gloucestershire

Hampnett. About fifteen Saxon cremation and inhumation burials were found in the bodies of the long and round cairns with a series of disc brooches, knives, glass, and an amber necklace, a Roman coin, and cinerary urns. The finds will go to Gloucester Museum. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Neolithic and Bronze Age.) (Winter 1940–1.)

Hampshire

Beaulieu Heath. A linear earthwork was examined. For report see C. M. Piggott in *Proc. Hants. F.C.* xvi, 166–7. (See also under Bronze Age.) (Summer 1941.)

Stoney Cross. A linear earthwork was examined. For report see C. M. Piggott in *Proc. Hants. F.C.* xvi, 166–7. (See also under Bronze Age and Roman.) (Winter 1941–2.)

Yorkshire

Lissett. A large number of human burials was excavated. There was no pottery, but they may be Danish. There was also an elliptical mound with post-holes and pits. The report is being prepared by Dr. W. J. Varley. (Winter 1940–1.)

Wales and Monmouthshire

Denbighshire

Vron. Sections were cut across Offa's Dyke. The report is being prepared by Mr. W. J. Williams. (Nov. 1943–Jan. 1944.)

Glamorgan

Hirwaun. Fifteen small mounds were examined with indeterminate results. For report see A. Fox in *Arch. Camb.* 1942, 77–92. (Summer 1941.)

MEDIEVAL

England

Cornwall

Davidstow Moor. An indeterminate medieval site was examined. The finds will be sent to the County Museum, Truro. The report is being prepared by Mr. C. K. C. Andrew. (See also under Bronze Age.) (Oct. 1941–April 1942.)

Essex

Chipping Ongar. A small moated house site was excavated. Three sides of a timber building were traced from a palisade trench, but the fourth, on the edge of the moat, had disappeared. Other features were a second palisade trench, apparently in connexion with a yard or garden, and a gate at the inner end of the entrance causeway. The report is being prepared by Mrs. Audrey Williams for the *Trans. Essex Arch. Soc.* (16th Sept.–17th Oct. 1942.)

Hertfordshire

Nuthampstead. An unfinished moated house site was examined. The finds are in the British Museum. For report see A. Williams in *Antiq. Journ.* xxvi, 138–44. (27th Aug.–15th Sept. 1942).

Lincolnshire

Colsterworth, alias *North Witham.* Two medieval sites were excavated. (i) A small earthwork contained a miscellaneous collection of post-holes, fire-pits, etc., in the interior, and a simple

stone building on the rampart. A round-headed stone from a window found amongst the debris from the building was either reused material or dates the building to the twelfth century. (ii) A small rectangular moat had a pitched roadway leading to the site of a building which was represented only by an area of pitching. The finds will be placed in Grantham Museum. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Roman.) (Oct. 1942–June 1943.)

Folkingham. A moated house site was excavated. The site, rectangular in outline, was divided by a cross-ditch into a larger, almost square, western enclosure, and a narrow eastern enclosure, connected by a causeway. In the eastern enclosure there was a long, narrow, stone building, perhaps a house; in the inner half of the western enclosure lay the farm buildings. The latter consisted of three buildings or groups of buildings of simple plan, linked by walls to form a yard or compound. The report is being prepared for official publication by Mr. W. F. Grimes. (Sept. 1943–May 1944.)

Norfolk

Hethel. Two mounds, one long and the other round, proved to belong to the sixteenth century or later. The report is being prepared for *Norfolk Archaeology* by Mrs. Audrey Williams. (Summer 1941.)

Northamptonshire

Silverstone. The site of Luffield Priory was examined. It proved to have been much robbed for building materials. Incomplete plans of four late buildings were recovered and the plan of the well-preserved earthworks, including fishponds, was recorded. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Bronze Age.) (Winter 1941–2.)

Wiltshire

Membury. A roughly rectangular earthwork had within it a complex of foundations of buildings. The earliest resembled in plan a small twelfth-century keep. Over the ruins of this lay a house of normal plan, perhaps of the thirteenth century, with later additions. There was also a chapel. The defences were entirely of earth except that one round tower had been built into the bank. The report is being prepared for official publication by Mr. W. F. Grimes. (See also under Roman.) (Summer 1941.)

2. Surveys and Discoveries due to the War Effort

No claim to completeness of record can be made for this or for section 4 of this article. Indeed, one of the chief reasons for their insertion is to encourage Fellows to come forward with information concerning other discoveries made during the war which have either remained unpublished or have been published without reference to the circumstances of discovery.

The examination of proposals for new airfields and other works during the war led occasionally not to excavation but to survey before destruction, partial or total. Such was Sir Cyril Fox's examination of peasant crofts or cottages in Pembrokeshire, as published in *Antiquity*, 1937, 427–40 ('Peasant Crofts in North Pembrokeshire') and *ibid.* 1942, 307–19 ('Some South Pembrokeshire Cottages'), the former before destruction, the latter before disuse and probable damage. His account of the house, Six Wells, Llantwit Major, Glamorgan, published in 1941 by the National Museum of Wales preceded its total destruction during the preparation of an airfield. Similarly the extension of an airfield led to the survey of

part of Weston Field, Weston Zoyland, Somerset, and the recovery of some of the plan of medieval open fields there (*Proc. Somerset Arch. Soc.* lxxxviii (1942), 80–1). An anti-tank ditch at Kingston Bagpuize, Berkshire, revealed a Bronze Age cremation and three Romano-British sites. A Roman coffin came to light during work at Corsham, Wiltshire (*Wilts. Arch. Mag.* l, 371–2), whilst at the Colerne airfield in the same county a hoard of Roman silver coins (*siliquae*) in a pot were found (*ibid.* 66–70).

A trench across Watling Street at Canon's Park, Middlesex, gave some indication of the line of the Roman road (*Antiq. Journ.* xxii, 220), whilst one trench for a pipe-line across Grim's Bank, Padworth, Berkshire, not only gave an interesting section and led to a fresh examination of that linear earthwork (*Antiquity*, 1943, 188–95), but also with the results of the excavation of Bury's Bank, Greenham Common, Newbury (see above and *Arch. Journ.* c, 177–87), enabled fresh light to be thrown upon the Silchester region in the fifth and sixth centuries A.D. (*Antiquity*, 1944, 113–22).

Two linear earthworks on Hiltingbury Common near Eastleigh, Hampshire, were surveyed before the erection close to them of an army camp, and some 200 small, artificial hollows were planned before being covered by the new surface of the airfield at Predannack Mullion, Cornwall. These surveys were made and are kept at the Ministry of Works.

A pagan Saxon cemetery at King's Worthy near Winchester was discovered during work by the army and was reported by a Major of the Pioneer Corps. The Hampshire Field Club propose further work on it.

The fragment of a ninth-century Saxon cross-head, found near Bath and recorded in *Antiq. Journ.* xxi, 75–6, was found during the preparation of a site for a temporary Government Office.

Two Belgic burial groups were found at Hothfield Common, near Ashford, Kent, during work by the army and were duly recorded by an officer who was in the vicinity (*Arch. Cant.* lvi, 41–7).

In Scotland a Bronze Age urnfield came to light on the airfield at Monkton, Ayrshire (*Proc. Soc. Ant. Scot.* lxxviii, 131–4), and at Preswick, Caithness, a late Viking house, discovered after shifting of sand, being in danger of removal by the working of a sand-pit, was excavated scientifically (*ibid.* lxxvii, 5–17).

3. Historic Buildings and Enemy Action

Soon after the bombing of London began in September 1940 it became apparent to many that, unless urgent measures were taken, many historic buildings might disappear without record, and many others, which might have been saved at least partially, might be removed by over-zealous demolition gangs.

A meeting was convened by the Royal Institute of British Architects and was attended by representatives of many interested societies. At this meeting there was much discussion of the inadequacy of the national record of historic buildings, but comparatively little of the question of saving buildings from complete destruction after enemy action, or of saving valuable fragments from those which were beyond repair. As a result of the meeting there was born the National Buildings Record,

directed by Mr. Walter Godfrey, V.-P.S.A., F.R.I.B.A., which, it should be noted, was first supported by H.M. Treasury, soon to be followed by the Leverhulme Trustees and other munificent bodies. The N.B.R. has done and is doing excellent work.

Still, however, there was no method of dealing sympathetically with historic buildings after damage by enemy action. It became increasingly clear to the Ministry of Works that its own organization for dealing with Ancient Monuments and Historic Buildings, however inadequate in numbers, was the only one available suited to the task. A scheme, known as the Salvage Scheme, was therefore devised with the kind collaboration of the Ministry of Home Security, which controlled the working of Air Raid Precautions. It was based upon the areas of local authorities, because the all-important information of actual incidents seldom came beyond local authorities, and because the Ministry relied for assistance upon local architects, chosen for their knowledge and care of historic buildings. In the choice of these architects and in other matters the Ministry gladly acknowledges the help given by the R.I.B.A., particularly by the then President, Mr. W. H. Ansell, the then Secretary, Sir Ian Macalister, and the then Librarian, Mr. E. Carter.

The scheme devised was in outline as follows. The Ministry of Home Security sent out early in 1941 to all A.R.P. authorities outside London Region a circular requesting them to report damage to any historic building in their area. Since obviously it could not be left to the A.R.P. Controller to decide what is or is not an historic building, all authorities were promised a list of the historic buildings in their respective areas. The Ministry in its turn circularized the chosen local architects, inviting their assistance and asking them in the first instance to prepare a basic list of historic buildings in their area. There is no need here to deal with the details of the system of reporting beyond emphasizing that no amount of official organization from headquarters would have been of the slightest use in a scheme of this kind unless it has been allied to willing collaboration between the local authority and the local architect. With few exceptions this collaboration was forthcoming, and the country owes a deep debt of gratitude to both parties, who often under great stress entered into the spirit of the scheme.

The lists of historic buildings which were sent to all local authorities were thus prepared at a time of great pressure, and as a matter of urgency. It was therefore not to be expected that they would be perfect, especially as only occasionally were local printed lists available as a basis, e.g. Plymouth, Ipswich, Bristol, Wisbech. Even in the counties already dealt with by the Royal Commission on Historic Monuments it was, of course, necessary to add buildings dating from after A.D. 1714. Nevertheless, the lists served their original purpose well, and, since they were the first universal list to be compiled for the whole country, they were also put to other uses; for instance they formed the basis of the work of the National Buildings Record. In this matter, as in the supervision of bombed historic buildings, in London Region (excluding the City), the work was willingly undertaken by the London County Council, to whom the Ministry is most grateful for its help.

On the occasions and at the places where it was tested this Salvage Scheme

usually worked well. That is not to say that it always worked smoothly—that would be too much to expect—but, speaking generally, the Ministry was in possession of information about damage to historic buildings soon after the event, and knew what steps were being taken to repair the damage, and, most important of all, which buildings were too badly damaged to be repaired by the local authority. In the case of these last, the Ministry's officers from headquarters normally inspected the damage, and, if the building proved really to be a total loss, they arranged for the collection and storage of any fittings or other remains which were of interest. Apart from London this occurred particularly at Bristol, Dartmouth, Exeter, Lewes, Portsea (King Street, pl. XIV *a*), Plymouth, and Yarmouth.

Occasionally, however, there were cases of buildings which were unlikely to be repaired for habitation in war-time because of the cost involved, yet were by no means total losses. Left untended, these buildings would soon have deteriorated so much that they would have become total losses. Sometimes even without encouragement the owners attended to them, but, for various reasons as a result of war-time conditions, these cases were few. Fortunately, however, the War Damage Commission came to the rescue with excellent collaboration. The Commission's officers were always most willing to use their powers, which were ready for use in all kinds of cases, with special emphasis for historic buildings, in which the Ministry of Works was interested. By means of Temporary Works Payments from the Commission very many historic buildings have been saved from extinction. They were not restored; they were temporarily shored or protected, so that their final future could be decided at greater leisure. Wherever possible, the owner was encouraged to take the initiative in having these temporary works carried out, but, where the owner was unwilling to do so, the Ministry itself did the work with his permission. A list of the buildings dealt with in this manner is given below, with the nature of the damage, and of the repairs executed. In the last column the letter 'M' indicates that the work was done directly by the Ministry, the letter 'O' that it was done by the owner with the Ministry's assistance, the letters 'LA' that it was done by the local authority at the Ministry's suggestion. Similar work was done to certain other buildings in different parts of the country without any help from the Ministry.

	Bath		
Abbey Church House	Blasted	Waterproofing of walls, etc.	O
Assembly Rooms	Burnt out	" " " "	O
Cavendish Place, nos. 6, 7, 8, and 9	" "	" " " "	M
The Circus, no. 20	" "	" " " "	M
The Crescent, nos. 2 and 17	" "	" " " "	M
Hope House, Lansdowne	Blasted	Temporary roof and shoring	M
	Boreham (*Essex*)		
New Hall	Twice badly blasted	Temporary roofing, etc.	O
	Bradwell-on-sea (*Essex*)		
St. Peter's Chapel	Blasted	Repairs to roof	O

	Bristol		
Bristol Castle Vaults	Burnt out	Waterproofing and general support	M
Guinea St., Redcliffe, nos. 3, 4, 5, 6, 7	Blasted and burnt	Temporary roofing, etc.	O
Merchant Venturers' Almshouses	Blasted	Support of broken end	LA
Portland Square, nos. 23, 24, 25, 26	Burnt out	Support of façade	M
Ridley's Almshouses	Blasted	Re-roofing	O
St. Augustine's Church	„	Temporary roofing	O
Stevens's Almshouses	„	Re-roofing	O
	Canterbury		
Flying Horse Inn	Blasted	Re-roofing	O
Precincts, various buildings (pl. xi)	„	Restoration	O
St. Augustine's College	„	„	O
St. Dunstan St., nos. 76, 77, 78, 79	Blasted twice	„	O
St. George's Church Tower	Burnt out	Temporary support	M
St. Margaret St., no. 8	Badly burnt	Temporary roof	O
St. Mary Magdalene Church Tower	Blasted	Retiling	O
Watling St., nos. 18 and 19 (pl. xiii *b*)	Burnt out	Support of walling	M
Watling St., no. 26	Badly burnt	Temporary roof	O
	Dover		
Old St. James's Church	Badly blasted	Repair of roof	O
	(N.B. Later hit again and not repaired.)		
Priory Gatehouse	Blasted	Shoring and roof repairs	O
	East Grinstead		
High St., no. 16	Blasted	Re-roofing with old slates	O
	Exeter		
Bedford Circus, nos. 16, 17, 18, and 19	Burnt out	Support of walls	M
	(N.B. Since demolished by the local authority.)		
Church Army House	Burnt out	Waterproofing of wall-tops	M
Close, nos. 11 and 12	Badly blasted	Various works	O
Country House Inn	Burnt out	Waterproofing of wall-tops	M
Dix's Field, nos. 3, 4, 5, 6, Dix's Field House, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27	„ „	Support of walls	M
Old Black Lion, South St.	„ „	Waterproofing of wall-tops	M
St. Mary Arches Church	Burnt	Temporary roof	O
St. Stephen's Church	„	General repairs	O
Southernhay East, nos. 30, 31, 32	Badly burnt	Support of walls	M
Synagogue	Burnt	Temporary roof	O
Vicars' Choral Hall (pl. xiii *a*)	Burnt out	Waterproofing of wall-tops	M
	Hastings		
George St., no. 64	Blasted	Repairs to roof, etc.	M
	Ipswich		
Church St., nos. 12, 14, 16, 18	Blasted	Temporary roofing, etc.	M

London

A. *City of London*			
Christ Church, Greyfriars	Burnt out	Various work was undertaken by the Bishop of London's Committee for the City Churches or by those responsible for individual churches, viz. waterproofing of wall-tops, careful removal of dangerous masonry, support of arcades, etc. A foreman from the Ministry of Works (Ancient Monuments Branch) worked under the City Engineer for clearance and sorting of debris from many of the churches	
St. Alban, Wood St.	" "		
St. Andrew, Holborn	" "		
St. Andrew-by-the-Wardrobe	" "		
St. Annes and St. Agnes	Burnt		
St. Augustine, Old Change	Burnt out		
St. Bride, Fleet St.	" "		
St. Dunstan-in-the-East	" "		
St. Giles, Cripplegate	" "		
St. Laurence, Jewry	" "		
St. Mary Abchurch	Burnt		
St. Mary, Aldermanbury	Burnt out		
St. Mary-le-Bow	" "		
St. Michael Royal	Blasted		
St. Nicholas, Cole Abbey	Burnt out		
St. Olave, Hart St.	Blasted and burnt		
St. Stephen, Walbrook	Blasted		
St. Swithin, London Stone	Burnt out		
St. Vedest, Foster Lane	" "		
Temple Church	" "	Temporary roofing	O
Middle Temple Hall	Blasted	Temporary repairs	O
King's Bench Walk, nos. 1 and 6	Badly burnt	Temporary roofing, etc.	O
London Wall	Burnt	Waterproofing of wall-tops, etc.	LA
B. *Rest of London Region*			
Bermondsey, Bridge House	Blasted	Permanent repairs to roof	O
Bermondsey, St. John, Horsleydown	Burnt out	Waterproofing of wall-tops, etc.	O
Clapham, 14 Clapham Common, N. side	Badly blasted	Temporary roofing	M
Deptford, St. Nicholas	Blasted	Waterproofing of wall-tops, etc.	O
Greenwich, Manor House, Crooms Hill	"	Repair of roof, etc.	M
Hackney, Brook House	Badly blasted	Temporary roofing, etc.	O
Holborn, 6 John Street	Badly burnt	Temporary roofing	O
Holborn, 15 Tooks Court	" "	" "	O
St. Marylebone, 12 Stratford Place	Blasted	Temporary repairs to roof, etc.	O
Stepney, Trinity Almshouses Chapel	Badly burnt	Waterproofing of wall-tops, etc.	O
Twickenham, 2 The Embankment	Blasted	Repair of roof, etc.	LA
Westminster, 1 and 2 Robert St.	"	Support of ceilings	O
Midhurst			
St. Anne's	Blasted	General repair	O
Milton next Sittingbourne			
Old Court House, High St.	Blasted	Repairs to roof	LA
Newton Abbot			
Bradley Manor	Blasted	Temporary repairs	O
Ford House	"	Repairs to ceilings	O

	Norwich		
Calvert St., no. 1	Slightly blasted	Shoring, repairs to roof, etc.	O
Colegate St., no. 27	Blasted	Re-roofing	O
Dolphin Inn	Burnt out	Waterproofing of wall-tops, etc.	O
Flowerpot Yard, nos. 1 and 2	Blasted	Temporary roof	O
Old Barge Inn	,,	Re-roofing	O
Rosemary Tavern	Badly burnt	Temporary roof	O
St. Benedict's Church	Badly blasted	Repair of tower	O
St. Mary at Coslany	Badly burnt	Temporary roof	O
	Penshurst		
Penshurst Place	Blasted	Re-roofing, etc.	O
	Plymouth		
Friars Lane, no. 3 (Trinity House)	Badly burnt	Temporary roof, etc.	M
Hampton House	Blasted	Temporary repairs	O
Island House	Badly burnt	Repairs to roof, etc.	O
Norley St., no. 6 (pl. x)	Blasted	Temporary roof	O
Parade, The, no. 18 (Old Custom House)	Badly burnt	,, ,,	O
Prysten House	,, ,,	Temporary roof, etc.	O
St. Andrew's Church	Burnt out	Waterproofing of wall-tops, etc.	O
Southside St., no. 62	Blasted	Repairs to roof, etc.	M
Wyndham Square, nos. 12, 13, 14, 15	Burnt out	Support of walls	M
	Rye		
Ypres Tower	Blasted	Temporary roofing	O
	Sevenoaks		
Knole House	Blasted	Repair of stonework	M
	Southampton		
French St., no. 58	Blasted	Repairs to roof	O
Isaac Watt's House	,,	Temporary roof, etc.	M
Old Farmhouse Inn	,,	Repairs to roof	O
	Swanage		
Magnolia House	Blasted	Temporary repairs	O
	Trowbridge		
Stallard House	Blasted	Repairs to roof, etc.	O
	Weymouth		
North Quay, no. 4	Blasted	Temporary roof	M
Trinity St., nos. 3 and 4	,,	,, ,,	O
	Winchelsea		
Five Chimneys (pl. xii)	Badly blasted	Temporary roof, etc.	M
Salutation Inn	,, ,,	,, ,,	LA

Yarmouth

Deneside Tower of Town Wall	Blasted	Re-roofing	M
Fishermen's Almshouses	Badly blasted	Re-roofing, etc.	O
Greyfriar's Cloister	Twice badly blasted	Shoring, etc.	O & M
North-west Tower of Town Wall	Blasted	Temporary roof	O
St. Nicholas Church	Burnt out	Waterproofing of wall-tops, etc.	O
South Quay, no. 4	Blasted	Support to ceiling	LA
South Quay, no. 47	"	" " "	M
South Quay, no. 75	"	Repair of roof	M

As has been mentioned, these temporary works were carried out in order that certain historic buildings should not be demolished or collapse before their final fate could be decided 'in cold blood'. Most of the work was done before the war ended, although a little remains yet to be done in Bath and Bristol.

The Ministry's interest in the buildings has not, however, ceased at this point. The time for consideration of the future of many of the buildings thus saved has now arrived. Although no special reference was made to historic buildings in the War Damage Act, the Treasury, acting with its power contained therein to issue directions to the War Damage Commission, issued Direction 10 with these buildings in view. This direction enables the Commission to make a Cost of Works Payment in the case of a building, for which it would normally make a Value Payment, if that course of action is in the national interest because the building is of historic or archaeological interest. In other words the Commission can pay for restoration of an historic building instead of paying its value. Each case of this kind is dealt with on its merits, and any interested party may take the initiative in asking for the use of the direction. The future of many historic buildings, including a number of those listed above, has already been assured in this manner, and other cases constantly come up for review.

4. Surveys and Discoveries due to Enemy Action

One of the commonest questions put to the writer during discussions of the results of enemy action has been whether or not 'anything has been found'. Indeed one representative of a leading daily journal even went so far as to inquire whether bombing had led to the discovery of any interesting antiquaries! The usual and the true answer to such questions, then and still, is really 'not yet'. The destruction was largely by fire, which is all devouring above ground, but which does not penetrate the surface to any extent. Consequently few discoveries of the kind meant by such questioners, loose objects from the soil, come to light as a direct result of bombing. On the other hand, many have now begun to be found in London and elsewhere as a result of the planned excavations mentioned below.

It is probable that this short list of discoveries, made as a direct result of enemy action, leaves out many even of those so far recorded, and the writer will be glad to have references to others for his own records.

Wickwar, near Bristol. Roman potsherds were found in a bomb crater (*Bristol Evening World*, 24th April 1946).

St. Helen's, Scilly. Fire revealed the plan of a Celtic monastery (*Antiq. Journ.* xxi, 344–6).

All-Hallows, Barking, City of London. Fire revealed a seventh-century arch and fragments of an early-eleventh-century cross (*Antiq. Journ.* xxiii, 14–18).

St. Bride, Fleet St., City of London
St. Mary-le-Bow, City of London } Medieval walling has been found under the seventeenth-century floor.

Southampton. A Saxon bone comb was found in a bomb crater (*Antiquity*, 1942, 43—crater not there 'revealed').

Tyler Hill, near Canterbury. A medieval pottery kiln was found in a bomb crater (*Arch. Cantiana*, lv, 57–64).

Little Horkesley Church, Essex. The complete destruction of the church by blast led to the discovery of a palimpsest brass (*Trans. Essex Arch. Soc.* xxiii, 1–9).

Apart from such discoveries of objects or of new sites of archaeological value destruction has led or is leading to surveys of vaults and other parts of medieval houses, etc., in various cities and towns.

Exeter. The cleaning—by fire and water—of the remains of St. George's Church in South Street, the remainder of which was pulled down over a century ago, showed that they were largely constructed of Saxon masonry including the lower half of the western door of that period (pl. xiv *b*). Reused pieces of Roman columns had been used in the 'long and short work'. On the opposite side of South Street some hitherto unknown portions of the buildings of the Vicars Choral came to light, and there is a thick medieval wall now visible above ground at no. 168 Fore Street. Measured drawings of the first two features and of other new discoveries in Exeter, made by Mr. A. W. Everett, F.S.A., are in the City Architect's Office at Exeter.

Hastings. The basements of certain houses in High Street of the old town have massive stone walls of later medieval type. A plan has been made by the Ministry of Works, and it is hoped that a description will be published by Mr. John E. Ray.

Southampton. This town was famous for its medieval vaults, and it is unlikely that any have actually been discovered as a result of enemy action, although many have become more accessible than they were. Many other features of medieval masonry have been brought to light now for the first time or been exposed again to view, like the complete chimney of *c.* A.D. 1200 at no. 79½ High Street. It is now known that there are remains of seven Norman houses in the town, which is in fact a 'medievalist's dream come true'. Many sheets of plans and other drawings have already been made by the Ministry of Works, but the work cannot be completed until many more basements have been cleared of debris. The eventual correlation of these plans with the copious documents of the time should lead to a most interesting study of the medieval town. This is being pursued by Mr. O. G. S. Crawford, F.S.A., Miss M. E .Wood, F.S.A., and the present writer.

Great Yarmouth. Considerable damage in the Row area has led to wholesale destruction by the local authority. Search of the area for panelling and other fittings which should be removed for storage and reuse before destruction showed that the area included many thousands of small houses of the early seventeenth century. Many of these have now been planned by the Ministry of Works, and

the present writer hopes at a later date to read and publish a paper on the subject.

It has now become the common knowledge of the archaeological world that destruction of property in many towns, lamentable as it is, gives an opportunity—often the last opportunity—of discovering by excavation and of recording the remains of earlier towns, usually but not always Roman, under the ruins of the more recent buildings. Special committees with these ends in view have been formed for Canterbury, Dover, Exeter, London, and Southwark, and considerable progress has already been made at all places. So far, because labour has been scarce, most of the work has been done by volunteers, but before long it will be necessary in all but one or two of the sites either to employ paid labour or to abandon all hope of dealing adequately with the situation. Provision of labour will entail an expenditure of money which by archaeological standards will be very large. (See Addendum, p. 44.)

5. Historic Buildings occupied by the Armed Forces, etc.

Many thousands of historic buildings, great and small, were used during the war for purposes other than those for which they were built. The army alone, which was by far the largest user of such properties, occupied over 5,000 of them. With so many men under arms, and during the earlier part of the war concentrated in these islands, accommodation became exceedingly difficult to obtain, and it was not reasonable to endeavour to prohibit the use of such premises except in especial cases. Efforts were concentrated upon the taking of precautions, to prevent or to minimize possible damage.

Had comprehensive lists of historic buildings been available at the beginning of the war, the army and other service departments would have been glad to use them in an endeavour to avoid using such buildings. They were not available, because before the war it was nobody's business to compile lists, especially as inhabited houses are excluded from the provisions of the Ancient Monuments Acts. By 1941–2, however, the lists made in connexion with the 'Salvage Scheme', described in section 3 of this article, were available and were sent to the service departments. The Quartering Commandants of the army and the appropriate officers of the Admiralty and Air Ministry were then instructed, if possible, to avoid using such buildings, but, if that course proved to be impossible, to inform the Ministry of Works, and to co-operate with them in measures to avoid damage to valuable fittings. This agreement between ministries was made retrospective. Lists of historic buildings already occupied were received, and as many of them were visited as staff and time permitted. It should, however, be emphasized that these visits usually showed that the officers of the occupying ministry had been alive to their responsibilities and had already arranged the necessary protection. From the time of this agreement onwards proposals to occupy historic buildings were constantly received by the Ministry of Works in London or Rhyl, and were investigated on the spot. The measures of protection then agreed were usually carried out by the occupying department, and proved effective. The most usual measures adopted were the boarding over of decorated chimney-pieces, of dadoes, and of the

treads of staircases, this last to withstand the tramp of many heavy boots, and attention to water-supply in the case of fire.

So far as has been ascertained, the chief damage suffered by historic buildings during the war as a result of occupation by the armed forces has been the result of fire. The upper part of the hall of Old Blundells at Tiverton in Devon was thus destroyed, probably because a fire was lit in a grate with a defective chimney. Parts of Long Melford Hall, Suffolk, of Ileden House, Kent, and of Chillingham Castle, Northumberland, were also badly burned. There may have been other such cases or examples of considerable damage by other means, but they have not come to the notice of the Ministry save one, that of Aldenham House, Hertfordshire, occupied not by a military but a civil department, which elected to use the best room for heavy gear and cut large holes through one of its decorated walls.

It is a matter of no small wonder that so little serious damage occurred to houses and fittings of historic interest. The army's addiction to whitewash or paint for cleanliness and to unsightly cement for engineering works caused unpleasant results at Brede Place, Sussex, and at Orford Castle, Suffolk, respectively, but they are small matters when seen in the right perspective, the urgency of the times and the small area affected. As is usual in time of war, rumours gained currency which in time of peace would be laughed to scorn. Many were the stories of untold destruction at some historic house by the hands of its brutal occupants. On the few occasions when chapter and verse were quoted in support of such allegations, investigation proved them to be totally unfounded.

6. Iron Railings

On 11th September 1941 the Ministry of Supply addressed a circular letter to all local authorities about the requisitioning of 'all unnecessary iron or steel railings', including 'iron or steel posts, chains, bollards, gates, stiles and similar materials'. The only categories excepted from the requisitioning were to be (i) railings which should be maintained for safety reasons, (ii) railings necessary to prevent cattle, etc., from straying, (iii) railings of special artistic merit or of historic interest. Thus from the beginning was every precaution taken to ensure the safety of those examples of craftsmanship which all good archaeologists and architects value.

Local authorities were asked to prepare schedules of the railings in question as rapidly as possible. Appeals by owners against the inclusion of their railings in the schedules were allowed only on the grounds of artistic merit or historic interest. All appeals regarding church or cemetery railings were dealt with in London at the headquarters of the Ministry of Works. Appeals concerning railings of secular property were considered in the first instance by local panels, which included the panel architects appointed to assist the Ministry of Works in connexion with historic buildings (*v.* p. 35) as well as officials of the local authorities. The panel architects were also asked to consider the schedule of railings prepared by the local authorities, and to arrange for the exclusion of any of artistic merit or historic interest. Cases of dispute between the panel architects and local authorities were referred to a special panel set up at the headquarters of the Ministry of Works,

to advise the Minister on this matter. This headquarters panel also had power of initiative in any particular case.

It was necessary to lay down as a general principle that only outstanding examples of their type or period should be saved. Panel architects were told that 'it may be assumed for this purpose that only specimens of the finest craftsmanship and design should be retained and that generally speaking no railings manufactured since 1820 come within this category'. On the other hand, the retention of many railings bounding the areas of basements of town houses on the score of safety incidentally led to the saving of many specimens of somewhat less merit.

Like all human institutions, this scheme may not have been perfect in all details in execution, but it did ensure the preservation at a very critical time in this country's history of all or nearly all of the best examples of iron railings. The Ministry was once more deeply indebted to panel architects for their prompt and ready assistance and to local authorities for their collaboration. Some panels worked out their own methods of marking, as in Bristol, where the railings to be saved were marked with red paint, still visible to the curious. The Headquarters Appeal Panel in London held many and lengthy meetings and to the non-official members many thanks are due, Professor A. E. Richardson, R.A., F.S.A., Mr. H. M. Fletcher, F.R.I.B.A., and Major C. T. B. Bailey. Finally it may be remarked, for the benefit of those who have doubted it, that by far the greater proportion of the railings removed was actually used in furtherance of the war effort (pl. xv).

This is a record of the chief duties discharged during the war by the staff of the Ministry of Works who are concerned with ancient monuments. There were other duties, less spectacular in result, though not less exacting in execution, such as assistance with the protection of certain monuments in churches and the removal of others, the drawing up of lists of historic buildings of especial importance, so that they might receive particular attention in the matter of fire precautions, and the careful scrutiny of all applications for civil building licences which related to historic buildings. In all it may be said that the work of 1943 was in quantity double that of 1939; the staff of 1943 was in numbers about half that of 1939.

[*Note*. All illustrations in this paper are reproduced by permission of the Minister of Works and of the Controller of H.M. Stationery Office.]

Addendum, Section 4.

The collection of fragments of the stone screen in the choir of Exeter Cathedral after bomb blast led to the discovery of numerous medieval wax votive arms, legs, etc. An account of these by Miss U. Radford is forthcoming in *Antiquaries Journal.*

b. After temporary repair

a. Before temporary repair

6 Norley Street, Plymouth

a. Forrens Arch, Canterbury: before restoration

b. Forrens Arch, Canterbury: after restoration

a. Five Chimneys, Winchelsea: before temporary repair

b. Five Chimneys, Winchelsea: after temporary repair

a. Hall of the Vicars Choral, Exeter

b. Nos. 18 and 19 Watling St., Canterbury

a. Nos. 11 to 16, King Street, Portsea

b. St. George's Church, Exeter: the western doorway; exterior

a. Wrought-iron gate at 32 Smith Square, S.W. 1

b. Wrought-iron porch at Sherborne
(*Drawings by J. Seymour Lindsay, F.S.A.*)

THE DEVELOPMENT OF FISHING IN PREHISTORIC EUROPE[1]

By J. G. D. Clark, F.S.A.

Although fishing, together with most of its principal appliances, was found to be of almost universal occurrence by European explorers as they penetrated the remoter parts of the world, it seems to have appeared as a specialized activity comparatively late in the history of the hominids. Whereas even the anthropians had added the resources of hunting to the vegetarian diet of their simian forebears, it was left to *Homo sapiens* in his evolved form to explore the possibilities of fishing. Thus the fisherman is entitled to regard his pastime as deriving from an economic activity peculiar to Neoanthropic Man. It is true that a few fish-bones were found with Neanderthal remains at Devil's Tower, Gibraltar, which yielded 'very few fish remains, mostly indeterminable'; but these may not have been introduced by man and, if they were, need not indicate more than the gathering of an occasional fish from the sea-shore, from which in the form of limpets and mussels the inmates of the rock-shelter derived a large proportion of their sustenance.[2]

Upper Palaeolithic

That fishing had already been developed as a purposive activity by Upper Palaeolithic times is attested by an abundance of fish-bones, by the frequency with which fish are represented in the cave art, and by the occurrence of fishing-gear—facts which were appreciated already during the third quarter of the nineteenth century by G. de Mortillet[3] and H. E. Sauvage.[4] It was even supposed by E. Piette[5] that, apart from a few of the heavier and coarser specimens, the barbed harpoons with basal swelling, characteristic of the later phases of the Magdalenian culture, were used in fishing, but this view has now been generally abandoned: H. Breuil and R. de St.-Périer[6] have since examined critically the carving from Mas d'Azil, which Piette interpreted as a fish transfixed by a harpoon, and concluded that in reality the 'fish' was an eel and the apparent projecting barb the tail of a small fish.

Among the harpoons described by Piette, the majority of which were most probably used for hunting reindeer (fig. 1, *b*), there was one admitted by him to be 'd'un usage peu commode'[7] having weak barbs and an excessively long base (fig. 1, *a*). To judge by analogy with Mesolithic specimens found with pike skeletons,

[1] Although the substance of this paper was communicated to the Society on 12th December 1946, some additional information obtained while visiting Scandinavian museums in the summer of 1947 has been incorporated. In respect of this latter, the author wishes to acknowledge a grant from the Leverhulme Research Trustees.

[2] D. A. E. Garrod and D. M. A. Bate, *The Stone Age of Mount Carmel*, i, 109, Oxford, 1937.

[3] G. de Mortillet, *Origine de la navigation et de la pêche*, Paris, 1867.

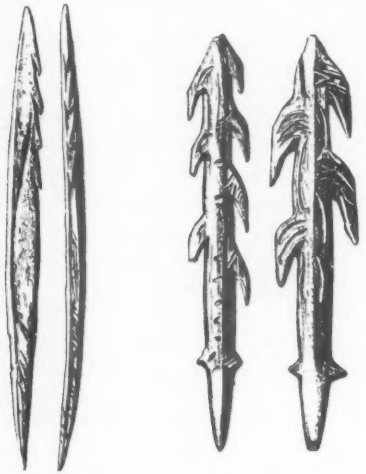
[4] H. E. Sauvage in E. Lartet and H. Christy, *Reliquiae Aquitanicae*, 219–25, London, 1865–75.

[5] E. Piette, 'Études d'ethnographie préhistorique', *L'Anthropologie*, t. vi, 276–92. Note especially pp. 284 ff.

[6] H. Breuil and R. de St.-Périer, *Les Poissons, les Batraciens et les Reptiles dans l'art quaternaire*, Paris, 1937, pp. 11–12.

[7] Piette, *op. cit.* 286.

and with others still used by the Eskimo, this must surely have been the prong of a fish-spear or leister: the oblique incisions across the base, which Piette interpreted as designed to secure the line, were most likely intended to grip the head in its shaft. Thus fish-spears, although rare in the caves (possibly they were commoner at the salmon camps inferred later in this article), had probably been developed



a *b*

FIG. 1. *a*. Leister prong from the Grotte du Mas d'Azil (*c.* $\frac{2}{3}$); *b*. harpoon-head from the Grotte de Lorthet (*c.* $\frac{2}{3}$) (*after Piette*)

already in Upper Palaeolithic times. It is possible that they were sometimes used for striking fish through holes in the ice as is done among the Eskimo to-day, the victims being attracted by bone lures like one excavated by St.-Périer from a Solutrean hearth in the Grottes des Harpons, Lespugue.[1]

Another method almost certainly used in Upper Palaeolithic times was angling with line and gorge (fig. 2).[2] Since double-pointed bones are still used for fowling in the circumpolar regions and until recently were so employed on Lake Constance,[3] one cannot be sure whether individual gorges from the cave deposits were used for fishing. Yet it is certain that specimens resembling those from Upper Palaeolithic deposits continued to be used throughout prehistoric times[4] and survived down to the

[1] R. de St.-Périer, 'Engins de pêche paléolithiques', *L'Anthropologie*, XXXVIII, 1928, 17–22.

[2] e.g. specimens from the Grimaldi caves. E. Rivière, *Paléoethnologie: de l'antiquité de l'homme dans les Alpes-Maritimes*, Paris, 1887, pl. X, nos. 5–8.

[3] C. B. Klunzinger, *Bodenseefische, deren Pflege und Fang*, Stuttgart, 1892, S. 119–21.

[4] For *Mesolithic* gorges see G. F. L. Sarauw, 'En Stenalders Boplads i Maglemose ved Mullerup', *Aarbøger*, 1903, fig. 23, and E. Westerby, *Stenalderbopladser ved Klampenborg*, Copenhagen, 1927, fig. 30. *Neolithic*: H. Reinerth, *Die Jüngere Steinzeit der Schweiz*, Augsburg, 1926, fig. 4, nos. 1, 2, and H. Gjessing, *Rogalands Stenalder*, Stavanger, 1920, 93. *Bronze Age*: L. Siret, *Les Premiers Âges du métal dans le sud-est de l'Espagne*, Antwerp, 1887, pl. 25, no. 95. *Early Iron Age*: J. Kostrzewski, *Osada bagienna w Biskupinie w pow. znińskim*, Poznań, 1936, Tab. XLV, 5.

present day as fishing implements, not only among such peoples as the Ob Woguls,[1] but in the Gironde itself.[2] In Britain the principle lives on in the stout needle baited with worm and used for sniggling eels.[3] To judge from modern usage in Finland, the

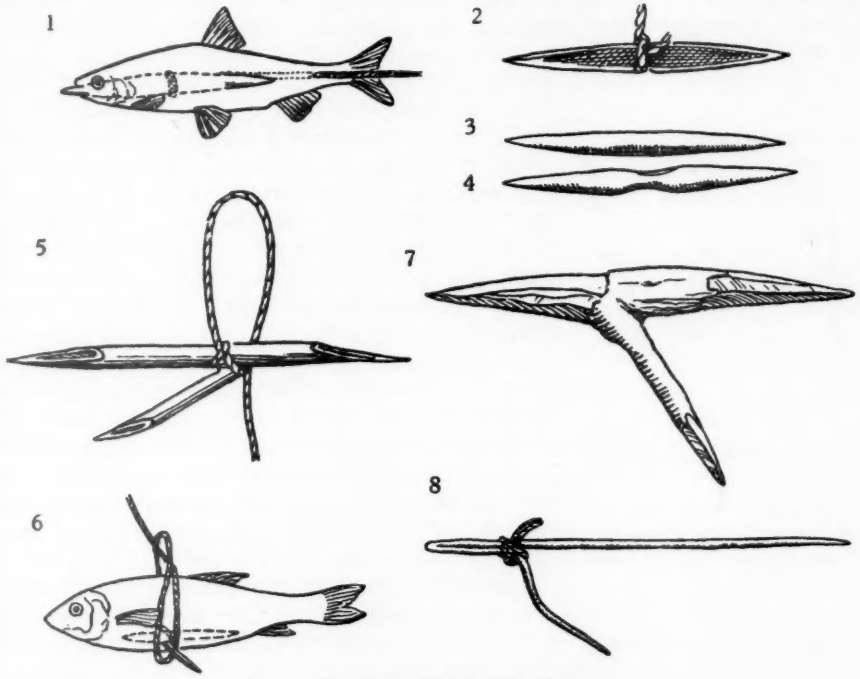


FIG. 2. Double- and triple-pointed gorges

Nos. 1, 2, modern Finnish double-pointed gorges with and without bait (*after Sirelius*); nos. 3, 4, double-pointed gorges of bone from Swiss lake-dwellings (¼); no. 5, modern Russian triple-pointed wooden gorge (¼) (*after Jankó*); no. 6, ditto, showing method of baiting (*after Jankó*); no. 7, triple-pointed gorge of wood from Sandträsk, Västerbotten, Sweden (Pitt-Rivers Museum) (¼); no. 8, triple-pointed gorge of iron wire from Kangasniemi, Finland (⅝) (*after Sirelius*)

cylindrical bone gorge was often used for live-baiting, being inserted lengthwise into a fish, which was free to swim at the end of a line and so attract a larger victim.

What may have been gorges of V-shape, with points opposed at an angle, were observed by Breuil[4] among material from the French caves, notably La Madeleine,

[1] I. Manninen, *Die Finnisch–Ugrischen Völker*, Leipzig, 1932, S. 339–40 und Abb. 285.

[2] Examples of wooden gorges (*hains*) from the Gironde are exhibited in the Pitt-Rivers Museum at Oxford, to the Curator of which I am indebted for allowing me to examine the important collection of fishing-gear assembled by the late Henry Balfour.

[3] In J. C. Wilcocks, *The Sea-fisherman, or Fishing Pilotage*, Guernsey, 1865, pp. 93–5, the advice is given: 'When you feel the eel, do not check him, but give him two or three minutes to gorge, then strike smartly, and you will fix the needle across his throat.'

[4] H. Breuil, 'Petits instruments magdaléniens à pointe bifide ou tridentée de Bruniquel et quelques autres gisements', *L'Anthropologie*, xix, 1908, 183–90.

Raymonden, and Laugerie-Basse, but the angle is much more acute than in the wooden specimens still used in Finland (fig. 3) and the analogy is hardly convincing. It is important also to emphasize that there is no real evidence that fish-hooks either were used by Upper Palaeolithic man.[1]

Thanks to the valuable monograph contributed by Breuil and St.-Périer,[2] one need not discuss in detail the numerous representations of fish in the Upper Palaeolithic Art of western Europe, representations which reflect vividly the interest prevailing among the reindeer hunters of this period in fishing as an ancillary source of food. It is enough to observe that the species represented, both in the chattel and in the parietal art of the south of France and of north Spain, include pike and trout, salmon, flat-fish, and in one instance a tunny, represented at Pindal, a cave which opens directly on to the Atlantic Ocean.[3]

a *b*

FIG. 3. Forked object and V-shaped gorge

a. Magdalenian from Laugerie-Basse (¼) (*after Girod and Massénat*); *b*. Modern Finnish (¼) (*after Bøe*)

Among the fish-bones identified from the cave deposits are remains of several species, which could easily have been caught intermittently in rivers close to the sites, notably pike and trout, with, in addition, such fish as dace, chub, bream, and white bream. The most numerous bones appear to have been those of salmon, anadromous fish, which must have been caught seasonally at the time of their summer run upstream for the purpose of spawning. It is likely that the salmon were taken at some distance from the cave sites where their remains were found. For one thing it appears, according to an account quoted by C. Rau,[4] that salmon are prevented from ascending the Vézère river by a bank of rocks known as the Saut de la Gratusse, a few leagues below the confluence with the Dordogne river. Another circumstance, remarked by Sauvage,[5] is that, whereas the head bones of the smaller and frailer Cyprinoids are recovered from the cave deposits, those of salmon are invariably absent and must therefore have been removed elsewhere. Again, it is generally agreed that the caves were mainly settled during the winter, the summer months, which include the period of the salmon run upstream, being occupied by seasonal migrations.[6] Now, according to accounts of the salmon fisheries of British Columbia,[7] the Indians were accustomed to repair each summer to points on the rivers where natural obstructions impeded the ascent of the salmon and to set up

[1] Professor V. G. Childe has directed my attention to barbless fish-hooks from the cave Hoyo de la Mina, near Malaga, which are, however, of uncertain age. According to H. Obermaier (*Fossil Man in Spain*, New Haven, 1925, 192), the cave yielded 'abundant Neolithic material' as well as flints possibly belonging 'to the final phase of the Palaeolithic'.

[2] *Op. cit.*

[3] H. Alcalde del Río *et al.*, *Les Cavernes de la Région Cantabrique*, Monaco, 1911, fig. 61 and pl. XLIII.

[4] C. Rau, *Prehistoric Fishing in Europe and North America*, Smithsonian Contributions to Knowledge, vol. xxv, Washington, 1884, p. 11.

[5] *Op. cit.* 223.

[6] For references see *Proc. Prehist. Soc.* 1939, 268.

[7] e.g. J. K. Lord, *The Naturalist in Vancouver Island and British Columbia*, 2 vols., London, 1866, pp. 64–75.

seasonal camping-places a few weeks in advance of the run. The salmon were caught in baskets suspended to catch fish attempting to leap the falls. As they fell into the baskets they were struck on the head by heavy clubs and flung on to rocks, where they were collected by boys and girls and brought back to the squaws round the curing-houses. An essential point is that, as in the cod fisheries of the north at the present day, the heads and back-bones were removed before the fish were dried: 'with sharp knives they (the squaws) rip the salmon open, twist off the head, and cleverly remove the backbone . . .', a point on which Lord is quite explicit.[1] After drying, the salmon meat was packed in bales and taken to winter quarters. Here, then, is a plausible explanation for the lack of traces of salmon heads from the winter quarters of the Upper Palaeolithic reindeer hunters of the Dordogne. One difficulty remains: according to Sauvage,[2] the salmon from the Dordogne caves are represented by quantities of vertebrae; yet if the fish were gutted and cured elsewhere, one might have expected the back-bones to have been discarded along with the heads. If in our interpretation of antiquity we were limited to purely economic factors, this would indeed be difficult to explain. But *Homo economicus* existed no more in the remote past than he does to-day: the struggle for subsistence must always have absorbed a large portion of man's energies, but never since he has been man has it absorbed them all. These salmon vertebrae must have been brought to the caves for some special purpose. What was it? The clue is given, I suggest, by the lower burial in the Barma Grande, Grimaldi, near Mentone, where salmon vertebrae formed an important element in the necklace, together with shells and deers' teeth. Now Rivière has pointed out[3] that since salmon do not exist in Mediterranean waters, the vertebrae from the Barma Grande must have been imported from Atlantic rivers for use as beads, a fact testifying to the high regard in which they were held and sufficient to account for their appearances in the caves of the Dordogne. The use of fish vertebrae as beads was extremely widespread in the Mediterranean basin during later prehistoric times,[4] a fact which led Mosso to infer a 'great diffusion' and 'evidence of the relations which existed in prehistoric times between the most distant parts of the Mediterranean', but one which finds its more probable explanation in a common heritage from the Upper Palaeolithic. It may be recalled that fish vertebrae were used as beads of a necklace at the Neolithic site of Skara Brae in Orkney.[5] Necklaces of pike vertebrae threaded on reindeer gut are still used as children's toys among the Lapps of northern Finland and were recently so as far south as Tavastland.[6]

There is no evidence from the Dordogne or north Spain that fish were taken from the sea; the tunny represented at Pindal could have been observed from the cave itself and flat-fish of the type depicted in the chattel art[7] commonly make their way

[1] *Op. cit.* 74–5.

[2] *Op. cit.*

[3] 'Des Reptiles et des Poissons trouvés dans les grottes de Menton (Italie)', *C. r. de l'Ac. des Sc.*, 1886, t. ciii, 1211–13, Paris.

[4] A. Mosso, *The Dawn of Mediterranean Civilization* (transl.), London, 1910, pp. 205–9. T. Zammit has since mentioned examples from the Maltese temples in his *Prehistoric Malta. The Tarxien Temples*, Oxford, 1930, pp. 56–7.

[5] V. G. Childe, *Skara Brae*, London, 1931, p. 96.

[6] See specimens in the Ethnographic department (Room 41, case 1) of the National Museum at Helsingfors.

[7] H. Breuil and R. de St.-Périer, *op. cit.*, fig. 7, 6 *bis*.

into fresh water, although hardly as far up as the caves. But a more reliable test is afforded by the Grimaldi caves, which open directly on to the Mediterranean, even if sea-level was lower than it is to-day. The most conspicuous feature noted by Rivière[1] was that, although the inhabitants ate large numbers of shell-fish gathered from the sea-shore, they appear to have caught remarkably few sea fish and mainly those species such as wrasses which could have been taken from the rocky shore. Perhaps this failure was due to a lack of water-transport; certainly the complete absence of any indication of boats from the cave art is striking when compared with the comparative frequency with which they are depicted in the rock art of the Arctic Stone Age of Scandinavia.[2]

Although the evidence is not yet very full, there is no doubt that fishing was also carried on by the Upper Palaeolithic mammoth hunters of European Russia, many of whose best sites were situated on the banks of rivers. There is a hint of this in the 'engraving representing a small fish, with well-outlined scales, fins and tail', found on a fragment of mammoth tusk at Timonovka on the Desna river, four kilometres below Briansk.[3] More conclusive was the discovery of the bones of salmonids from the lower level of a rock-shelter at Suren on the Kacha river in the south Crimea.[4]

Mesolithic

Whether or not it should ultimately prove that some of the devices for fishing, for which we first have evidence from Mesolithic cultures, were in reality of Upper Palaeolithic origin, it is evident that most of the chief methods of fishing used in prehistoric Europe were already in being during Mesolithic times. In addition to the spear and the gorge, taken over from Upper Palaeolithic times, there now appears the hook, the net, and the funnel-shaped trap—and, as a most important adjunct, the boat.

The precise origin of the hook remains unsolved, but it is common ground that it must have developed from some form of gorge. Most writers have looked to various forms of the three-pointed gorge or gorge-hook made from a slender branchlet and thorn, such as are still used in some parts of Europe, although there is no proof that these natural forms were really primitive. The antiquity of the three-pointed gorge with a lateral point projecting from the belly of the live-bait, of the type used in modern times in Russia,[5] Finland,[6] and Sweden[7] (fig. 2, nos.

[1] *Op. cit.*, 1886.

[2] Thus representations of what appear to be skin-boats occur at Rödöy and Forselv in Nordland and at Evenhus in Nord-Tröndelag. G. Gjessing, *Nordenfjelske Ristninger og Malinger av den arktiske Gruppe*, Oslo, 1936, pl. VII *b* and pl. LXXVII; *Arktiske Helleristninger i Nord-Norge*, Oslo, 1932, pl. XIV.

[3] E. A. Golomshtok, 'The Old Stone Age in European Russia', *Trans. Am. Phil. Soc.*, N.S. XXIX, pt. II, pp. 191–468, Philadelphia, 1938. See p. 399.

[4] According to Golomshtok, *op. cit.*, pp. 289–93, bones of *Salmo* sp. and of *Salmo trutta laborax* were obtained from layer IV of the shelter, which also yielded mammoth, reindeer, cave bear, cave hyena, and beaver.

[5] See J. Jankó, *Herkunft der Magyarischen Fischerei*, Dritte asiatische Forschungsreise des Grafen Eugen Zichy, Bd. I, Budapest, 1900, S. 516, figs. 504, 505.

[6] V. T. Sirelius (*Die Volkskultur Finnlands. I. Jagd und Fischerei* (transl.), Berlin und Leipzig, 1934) illustrates a wooden specimen from Alaveteli (Abb. 177) and an iron one from Kangasniemi (Abb. 183).

[7] A wooden specimen used for catching burbot and collected by the late Henry Balfour from Sandträsk, Västerbotten, is exhibited in the Pitt-Rivers Museum at Oxford.

5–8), is not established, nor is the theoretical evolution (fig. 4, left) suggested by Pälsi[1] and Sirelius,[2] whereby the attachment of the line is supposed to have shifted from the fork to the base and ultimately to the top of the shank, very convincing. Still less satisfactory is the derivation from the V-shaped gorge of the type still

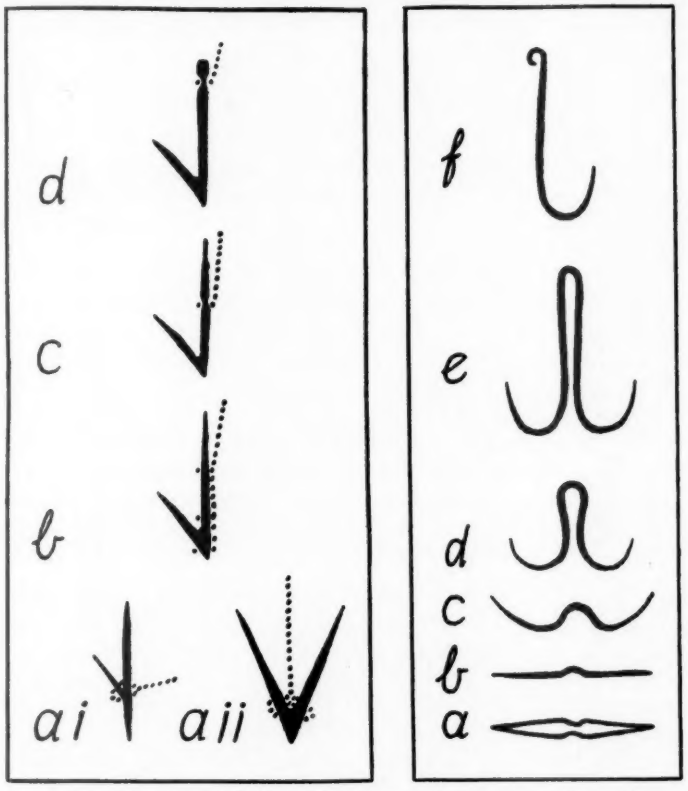


FIG. 4. Hypothetical lines of development from gorge to fish-hook

(*Left*) From triple-pointed (*a* i) or V-shaped (*a* ii) gorge to hook with V-shaped base (*after Pälsi and Sirelius*); (*Right*) from double-pointed metal gorge (*b*) to hook with U-shaped base (*after Barnet Phillips*)

used by the Finns (fig. 3 *b*) and the Ostiaks proposed by Jankó:[3] not only is the antiquity of the form unproven—unless the much narrower forked bone points brought forward by Breuil[4] are accepted as representatives—but there is no evidence that the suggested evolution, whereby one point was abbreviated and the other lengthened to form the shank, to the top of which the line was ultimately attached, in fact occurred.

[1] S. Pälsi, 'Über steinzeitliche Hakenfischgeräte in Finland', *Finska Fornminnesföreningens Tidskrift*, XXVI (1912), 195–204, Helsingfors. See especially Abb. 14–19.

[2] *Op. cit.*, S. 98–9.

[3] *Op. cit.*, figs. 479–81.

[4] Breuil, 1908, *op. cit.*

The most decisive evidence against accepting as prototypes the natural forms, utilized in peripheral areas down to the present day, lies in the character of the early hooks themselves. The most noticeable feature of natural hooks is that they have angular or V-shaped bases, the angle formed by the main stem and the side-branch. Archaeologically the V-shaped hook is comparatively late and generally of

FIG. 5. Early fish-hooks from the Near East (⅔)

Nos. 1, 2, Natufian, Mugharet el-Kebarah (bone); no. 3, Tasian; nos. 4, 5, Badarian (shell and ivory); no. 6, Merimdian (bone); no. 7, Ist dynasty, Abydos; no. 8, Ist–IInd dyn., Ballas; no. 9, IInd dyn., Perabsen; no. 10, XVIIIth–XIXth dyn., Gurob; no. 11, Kish 'A' mound; no. 12, Mohenjo-Daro

the composite type, having the point lashed to the shank. Mesolithic fish-hooks, and for that matter the earliest Neolithic ones, both in the Near East and in Europe, were invariably U or ⊔ shaped at the base. This feature is particularly well seen in the bone hooks found by F. Turville-Petre[1] in the Natufian deposits of the Mugharet el-Kebarah in Palestine (fig. 5, nos. 1, 2), but it is also apparent in the Maglemosian hooks from Denmark[2] (fig. 6) and other parts of the north European plain.[3] Equally, it is characteristic of such sites as Tasa,[4] Badari,[5] and Merimde[6] in Egypt, as well as from most of the Neolithic sites in Europe, which have yielded fish-hooks. Some other explanation must, therefore, be found to account for the idea of the hook. While it is too early to attempt a dogmatic answer, it is tempting to suggest

[1] 'Excavations in the Mugharet el-Kebarah', *J.R.A.I.* lxii (1932), 271–6. See p. 272 and pl. XXVIII.

[2] Viz. Mullerup (Sarauw, *op. cit.* 260–3); Ögaarde (T. Mathiassen, *Stenalderbopladser i Aamosen*, Nordiske Fortidsminder, iii, 3, Copenhagen, 1943, fig. 41, no. 6); and Sværdborg (H. C. Broholm, 'Nouvelles trouvailles du plus ancien âge de la pierre. Les trouvailles de Holmegaard et de Sværdborg', *Mém. de la Soc. Roy. des Ant. du Nord*, 1926–31, 1–128, fig. 60).

[3] e.g. from the Havel lakes, Brandenburg (R. Stimming, 'Die Ancyluszeit in der märkischen Havelgegend', *Archiv. Anthrop.* xxi, 109–21, Abb. 206–21).

[4] V. G. Childe, *New Light on the Most Ancient East*, London, 1934, fig. 12.

[5] G. Brunton, *The Badarian Civilization*, London, 1928, pl. XXIV, 16, 17.

[6] O. Menghin, *Weltgeschichte der Steinzeit*, Vienna, 1931, Taf. XLI, 16.

that the ultimate prototype of the bone fish-hook may prove to have been one of bent wire.

This was indeed suggested some sixty years ago by Barnet Phillips,[1] who illustrated a hypothetical line of development (fig. 4, right): first, the gorge was rendered in wire looped in the middle to give secure hold for the line in place of the groove often made in the girth of the bone or wood prototype; next, the points of the wire gorge were turned up towards the loop and this feature was itself enlarged; and, lastly, by halving the resultant double hook, there emerged a single one with the top of the shank rolled over to engage the line. That Phillips's intermediate forms were not merely suppositious is shown by their occurrence, not only in ancient, but also in modern times in Europe: reference has already been made to the use of metal needles for sniggling eels and an intermediate form (cf. fig. 4 *b*, right) was recently used by Wallachians and Hungarians in the Masöseg.[2] On the other hand, there is no proof, in the shape of metal forms antedating the earliest bone hooks, that the development in fact followed these lines. From Egypt there appear to be no metal hooks earlier than the first dynasty,[3] and from Mesopotamia the earliest specimens so far published are those from Jemdet Nasr, which can hardly be earlier than the last centuries of the fourth millennium B.C.[4] The earliest double hooks, which ought on this hypothesis to occur in early contexts, were until quite recently first known from the Late Bronze Age in the Alpine area of Europe (see pp. 70–1), but the Oriental Institute of Chicago has since recovered two excellent examples from a house dating from the mid-third millennium B.C. at Tepe Shensi, near Khorsabad in northern Mesopotamia.[5] This only illustrates the fluidity of the position. At any time exploration of the deeper levels in the tells may produce the evidence needed to prove what can at present only remain a hypothesis. True metallurgy was already established in parts of the Near East around 5000 B.C.,[6] the date usually assigned to the close of the Boreal period when the Maglemosian hooks were made,[7] and it may be assumed that copper was hammered in small quantities during still earlier periods, although unlikely to bulk large in the archaeological record. Much hinges on the age of the Natufian. If Ghirshman is right in equating it with the lowest levels at Sialk, largely because of the occurrence at both of bone sickle-handles with animal-head terminals, then it is pertinent that small objects of hammered copper were recovered from all but the

[1] 'The Primitive Fish-hook', *Sport with Gun and Rod in American Woods and Waters* (edited by A. M. Mayer), i, 337–50, Edinburgh, 1884. See pp. 340–2.

[2] E. Krause, 'Vorgeschichtliche Fischereigeräte und neuere Vergleichsstücke', *Z. für Fischerei*, Bd. xi, 133–300, Berlin, 1904. See Abb. 394.

[3] Sir Flinders Petrie, *Tools and Weapons*, London, 1917, pls. XLIII, XLIV.

[4] E. Mackay, *Report on Excavations at Jemdet Nasr, Iraq*, Field Museum of Natural History Anthropology Memoirs, vol. i, no. 3, Chicago, 1931. See nos. 2481–2 and pl. LXXV, 4.

[5] *Oriental Institute Communication*, no. 17, Chicago, 1934, p. 89 and fig. 81.

[6] The Halafian culture, which according to Professor V. G. Childe may well go back to *c.* 5000 B.C., had a well-developed metallurgy ('The Orient and Europe', *Am. J. of Archaeology*, xliv (1939), 10–26; see pp. 12–13). The hammering of copper wire must go back well into the 6th millennium B.C. on this chronology.

[7] On the existing chronology the Maglemose culture is usually dated to approx. 6800–5000 B.C. (J. G. D. Clark, *The Mesolithic Settlement of Northern Europe*, Cambridge, 1936, p. 53), but the Zealand sites from which the fish-hooks came date from late in this time.

very lowest levels of that site.[1] If, alternatively, the Natufian is older than the earliest tells, it follows that metal wire can hardly have played a part in the origin of the fish-hook.

In making their fish-hooks, the Maglemosians employed the drill, presumably the bow-drill, to begin the work of separating the points from the shanks, a technique clearly revealed by an unfinished piece from Mullerup (fig. 6, no. 6), and one which was also used during the later Stone Age in Europe (fig. 10, no. 8; fig. 12, no. 1),

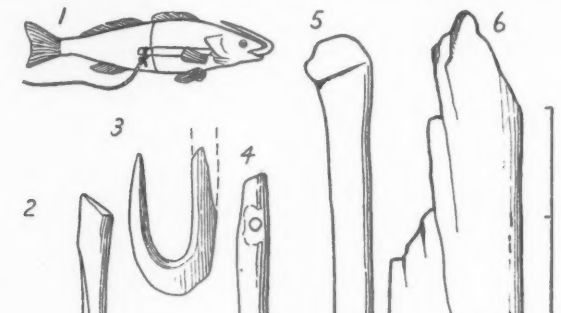


FIG. 6. Barbless fish-hooks

No. 1, Wooden specimen with live-bait, as used among the Turkomans (*after Jankó*); nos. 2–6, Bone specimens from Maglemose sites in Denmark (Mullerup, Ögaarde, and Sværdborg) and Germany (Havel lakes)

and has parallels as far apart as Ohio,[2] Santa Cruz,[3] and New Zealand.[4] It might be argued that the drill technique was responsible for the U-shaped base, but the more likely explanation is that the technique was adopted to produce hooks of this shape: V-shaped hooks of the type represented at the (Meso. III/Neo.) Norwegian site of Viste were made by a sawing or cutting technique (fig. 8, no. 7). As to use, it may be remarked that all the hooks from the Zealand sites and many of those from the Havel lakes are so large that they can hardly have been intended for any

[1] R. Ghirshman, *Fouilles de Sialk près de Kashan*, i, Paris, 1938. For the Sialk sickle-handles see p. 19 and pls. VII and VIII, 1–3. Cf. Natufian examples from the Mugharet el-Kebarah (Turville-Petre, *op. cit.*, pl. XXVII) and the Mugharet el-Wad (Garrod, *op. cit.*, pl. XIII, 1, 3).

[2] C. Rau, *op. cit.*, fig. 188.

[3] *Ibid.*, fig. 212.

[4] Bone specimens from Purakanui, Otago, in various stages of manufacture, are exhibited in the Pitt-Rivers Museum at Oxford.

fish smaller than a pike; to judge by analogy with the large barbless bone or wooden hooks used by the Turkomans and Ostiaks, the large Maglemose hooks were used with a small fish as live-bait, the line being attached at the other end to a *luma* or float against which the intended victim would tire.[1]

Other devices, which appeared for the first time in the Mesolithic period, include the plaited trap or weel still surviving in the folk usage of many parts of Europe, even though largely replaced by machine-made netting stretched over hoop frames. The most widespread form, which occurs in many parts of the world and was already depicted on tomb paintings of the Egyptian Old Kingdom,[2] comprises baskets of conical or elongated bell shape, having internal funnels, one of which is commonly placed immediately inside the mouth. Such traps may be employed individually, set in narrow channels or between weeds and kept in position by stone weights, or they may be fixed at the end of a fence built out from the shore or at the apex of a light V-shaped fence, or again they may be incorporated in the structure of weirs of heavy timber construction. Also, they may be used to catch many different kinds of fish, salt- or fresh-water, with or without bait: in Lake Constance they are even now employed, sometimes at the apex of V-shaped fences, to catch pike, perch, tench, and occasional eels,[3] while in many parts of Europe they are specifically intended for eels, whether in salt-water, as in the Wash[4] or on the Danish coast,[5] or in rivers like the Lower Rhine.[6] Up to the present, despite vague references to finds in other parts of Europe, such as Laibach in Slovenia,[7] and various bogs in north Italy,[8] adequate records of fish-traps of this character from ancient deposits are confined to Denmark and specifically to Zealand. The most ancient and the best preserved specimen was found in 1940 by peat-diggers in a layer of mud deposited close to the shore of what had been in Litorina times a small islet in a narrow firth joining the now-drained Söborg Lake with the Kattegat.[9] Pollen analysis shows that it dates from early Atlantic times. Almost certainly it had been used by coast-dwellers of the Ertebölle culture, discarded in damaged condition and washed ashore on the islet. The surviving portion was 2·95 m. long, but, since a metre or so was dug away before its true nature was recognized, it must originally have been about 4 m. or well over 12 ft. in length; its maximum diameter was 0·9 m. or about 3 ft. Among the peat extracted from the trap, which was made of branchlets peeled of their bark and held together by transversely plaited split twigs, were the remains of an internal funnel made from similar materials. Also from the Atlantic period is part of the middle portion of a similar trap, made of birch twigs plaited with fir chips, comprising a piece of the outer part and of the inner funnel, found during the extraction of peat in 1905 near Nidlöse, south-west of Holbaek.[10] Part of what may have been

[1] J. Jankó, *op. cit.*, figs. 500, 501, 504, 505.

[2] G. Steindorff, *Das Grab des Ti*, Leipzig, 1913, Taf. CXI.

[3] C. B. Klunzinger, *op. cit.* 210–22.

[4] F. M. Davis, *An Account of the Fishing Year of England and Wales*, Fishery Investigations, series II, vol. XV, no. 2, London, 1936. See p. 112 and fig. 85A.

[5] C. J. Becker, 'Fund af Ruser fra Danmarks Stenalder', *Aarbøger*, 1941, 131–49. See p. 144 f.

[6] E. Krause, *op. cit.*, Abb. 537.

[7] *Ibid.*, S. 254.

[8] F. Keller, *The Lake Dwellings of Switzerland and other parts of Europe*, London, 1878, p. 353.

[9] C. J. Becker, 'Et 6000-aarigt Fiskeredskap', *Fra det Gamle Gilleleje*, 1943, 70–87.

[10] C. J. Becker, *op. cit.* 1941, 131–5.

a fence for directing fish into a similar weel was found in a marine deposit dating from the same period at Svinninge Vejle, a dried-up branch of the Lammefjord, also in the Holbaek district.[1] In the narrow end of a weel made from lime twigs found in an old lake-bed at Magleby, Sorö, and dating in all probability from the time of the Passage Graves,[2] one of the stone weights used to anchor it was still in position. Many other finds have since been made in Denmark and south Sweden.

Although the fish-traps described are sometimes attached to weirs, it does not necessarily follow that these structures were built in Mesolithic Europe. The idea of blocking or impeding the passage of fish in such a way as to facilitate their capture is one that might easily have developed among peoples accustomed to take advantage of annual runs of fish like salmon by taking them at natural obstacles, as was probably done by the Upper Palaeolithic people of the Dordogne. The device of creating artificial barriers by heaping boulders across streams is known to some peoples still in a savage stage, but it is unlikely that evidence of this will be forthcoming from remote antiquity.

The most effective of all devices for catching fish is the net, and there is ample evidence that this had already been devised by Mesolithic times, at least in its most primitive form, the drag, sweep, or seine net, designed to surround and enclose surface-swimming fish, mainly in shallow water. Evidence for the use of such nets might include the floats designed to keep the upper edge on the surface, the weights needed to sink the lower edge, and fragments of the net itself; of these the only elements likely to survive under normal conditions are the weights, which could hardly be recognized as such in isolation unless found as a series in position, although impressions of nets have been found on hand-made pottery. One reasonably complete find from Mesolithic times is that recovered from the undisturbed bed of a Stone Age extension of Lake Ladoga during the draining of some water-meadows near Korpilahti in the parish of Antrea, Viborg, Finland,[3] in 1913, comprising floats, fragments of net, and weights of the seventeen pine-bark floats, each roughly oblong in form and nearly a foot long (30 cm.) with a perforation at one end; four of these covered traces of the actual net, which was made from lime bast or nettle-fibre and fragments of binding-thread were found under twelve of a number of weight-stones about the size of a man's fist arranged in a grouping to the floats. There has been some dispute about the exact date of this find; whereas Pälsi relied on the phytopalaeontological evidence and assigned it to an early stage of the Ancylus Lake, Ailio,[4] on the strength of the stone axes of Suomusjärvi type found at the same level, brought it down to the Litorina stage, roughly contemporary with the Danish kitchen-middens of Mesolithic III. On the other hand, the find from Narva Siivertsi in north-east Esthonia, comprising similar net-weights and a pine-bark float of slightly more ovoid form, is firmly dated to the Ancylus–Litorina transition.[5] The seine net, which was equally adapted for inland

[1] C. J. Becker, *op. cit.* 1941, 138–9.

[2] *Ibid.* 136–7.

[3] S. Pälsi, 'Ein steinzeitlicher Moorfund bei Korpilahti im Kirchspiel Antrea, Län Wiborg', *Finska Fornminnesför. Tidskr.* xxviii, no. 2, Helsingfors, 1920.

[4] J. Ailio, 'Fragen der russischen Steinzeit', *F.F.T.* xxix, 3–14. See S. 7–8.

[5] R. Indreko, *Über die vorgeschichtliche Fischerei in Estland*, Abhandl. der Fischereikammer, no. 2, Tallinn, 1937, fig. 3, no. 3.

and inshore coastal waters, where there was a tolerably smooth bottom and a beach for landing, implies a boat and a certain element of team-work. The net could either be worked entirely from a boat, being hauled directly on board, or, after being secured ashore by one wing, it could be rowed out, shot from a boat, and the other wing returned to shore, the catch being landed by parties hauling at either wing. Whichever course was adopted, the manœuvring and handling of the net would require at least three men, and where a net of any size was used, many more.[1]

The principal fishery for which evidence survives from Mesolithic times centred round the pike, a fish widely distributed in the rivers and lakes of Europe and one which at the present day is absent only from the Iberian Peninsula, Greece, and the west coast of Norway,[2] although apparently a modern introduction to Ireland.[3] Essentially fresh-water fish, pike do occur to a certain extent in the Baltic, but there they are concentrated in the island belt and attain no great size. They can be caught all the year round by different means: their voracity makes them easy prey to the hook with live-bait; they are often caught in weels as they penetrate inlets and channels on the way to spawn;[4] and while in shallow water for this purpose they are especially vulnerable to the fish-spear and the noose[5]—all methods which could easily have been used by Mesolithic man. The spawning season varies according to the size of the fish: in central Sweden the peasants distinguish[6] between 'ice pike', the youngest mature fish which arrive before the ice has cleared; 'grass pike', the larger fish which often spawn, when spring is far advanced, on the flooded water-meadows; and 'leaf pike', the largest fish, comparatively few in number, which spawn in deeper water during early summer. As a food-fish Isaac Walton opined that pike flesh is 'too good for any but anglers, or very honest men' and it has the great merit of preserving well, either salted or dried; in addition, a kind of caviare can be made from the roe.[7]

There is some evidence that pike were eaten by the reindeer-hunters of northern Europe in Late Glacial and earliest Post-glacial times: two fish-bones, probably of pike, occurred among the refuse of a Hamburgian hunting-group at Meiendorf;[8] remains of at least five pike and of a rudd were identified from the Ahrensburgian level at Stellmoor;[9] and bones of a number of large pike, accompanied by a broken fish-spear prong, were obtained from Late Glacial clay at Abschruten, Kr.

[1] e.g. two gangs each of five men are depicted in wall-paintings of the XIIth dynasty at Beni Hasan, Egypt. P. E. Newberry, *Beni Hasan*, Pt. I, London, 1893, pl. XII.

[2] F. A. Smitt, *A History of Scandinavian Fishes*, 2nd ed., 2 vols., Stockholm, 1893–5. See p. 1003.

[3] A. E. J. Went ('The Galway Fishery. An Account of the Modes of Fishing together with Notes on other matters connected with the Fishery', *Proc. Roy. Irish Acad.* xlix, Sect. C, 187–219, Dublin, 1944) states (p. 211) that he could not trace references to pike earlier than the 16th century.

[4] J. Jankó, *op. cit.* 192–3 and Abb. 116.

[5] According to R. Stimming (*op. cit.* 115), the noose or sling at the end of a forked stick is still used in Brandenburg for catching pike in spring and autumn when the water is sufficiently clear. The same writer, as a youth, used to grab pike in his bare hands as they lay spawning on the flooded water-meadows.

[6] F. A. Smitt, *op. cit.* 1005.

[7] G. Klemm, *Allgemeine Culturwissenschaft. Die materiellen Grundlagen menschlicher Cultur. Das Feuer. Die Nahrung. Getränke. Narkotica*, Leipzig, 1855. See S. 110.

[8] A. Rust, *Das Altsteinzeitliche Rentierjägerlager Meiendorf*, Neumünster, 1937. See S. 57.

[9] A. Rust, *Die alt- und mittelsteinzeitlichen Funde von Stellmoor*, Neumünster, 1943. See S. 58.

Pillkallen, East Prussia.[1] But it was among the Maglemose people, who occupied the north European plain during Boreal times, that the fishery was first developed on an extensive scale. The evidence tabulated in Appendix I was obtained casually from the beds of former lakes, in Esthonia, Sweden, north Germany, Denmark, and England, when these were quarried for cement or brick-earth, exposed by peat-cuttings or cut into by field-drains, or in the course of archaeological excavations carried out on a number of settlement sites, mostly in the Danish island of Zealand.

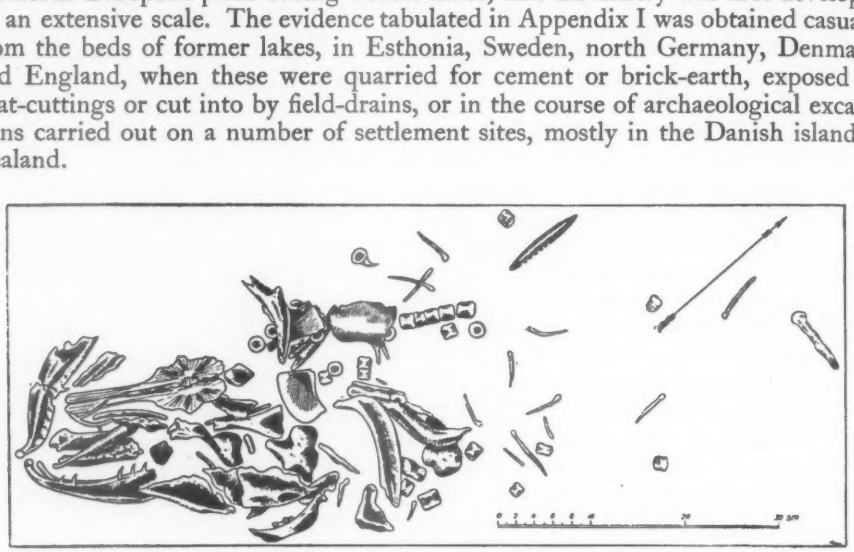


FIG. 7. Remains of pike with leister prong, from a Mesolithic lake-deposit near Kunda, Esthonia (*after Indreko*)

A feature of the finds from old lake-beds was the occurrence side by side with pike-bones of numerous objects of bone and antler, principally points with notched or toothed edge. At one time these were regarded by Menghin[2] as fossils of a hypothetical 'bone culture', but it is now generally agreed that they were mostly connected with fishing, either from boats or through holes in the ice.[3] As a matter of fact characteristic points have on three occasions been found actually impaling pike skeletons lying in old lake-deposits: one was found sticking into the skull of a pike at Kunda[4] in northern Esthonia and another from the same site was noted in the back of a metre-long pike (fig. 7);[5] a third find of similar character was made by a peat-digger in the old lake-bed at Esperöds Mosse, Tranäs, Scania, in south Sweden.[6] Such finds, taken in conjunction with recent or still existing folk-usage in many parts of Europe,[7] as well as with analogies from other parts of the world, make it certain that several forms of the Maglemose notched or toothed bone

[1] H. Gross, 'Die ältesten Spuren des Menschen in Nordostdeutschland', *Nachr. f. Deutsche Vorzeit*, Jg. 13, H. iv, 73–80, Leipzig, 1937. See S. 77.

[2] *Op. cit.* 231 ff.

[3] The so-called 'bone-culture' of Kunda in northern Esthonia was exploded by the excavation of the settlement of Lammägi on the margin of the old lake, which yielded other aspects of the material equipment of the inhabitants, including artefacts of flint and stone. See R. Indreko, 'Vorläufige Bemerkungen über die Kunda-Funde', *Sitzungsberichte d. gelehrten Estnischen Ges.* 1934, 225–98, Tartu, 1936.

[4] P. W. Thompson, 'Pollenanalytische Untersuchungen von Mooren und lakustrinen Ablagerungen in Estland', *Geol. Fören. Stockholm Förh.* xlviii, 1926, 489–97.

[5] R. Indreko, *op. cit.* 1936, S. 283.

[6] *Ymer*, 1917, p. 453.

[7] See pp. 64–5.

points were used as the prongs of leisters or fish-spears for taking pike (fig. 8). Detailed study by Danish archaeologists of the numerous barbed bone points recovered during recent investigations in the bed of the Mesolithic lake at Aamosen in north Zealand has revealed near the tip of many specimens a zone of surface decay. This corresponds approximately with the thickness of a pike and is thought to have been brought about through the decomposition of fish which escaped with a single leister prong in their flesh. The quantity of material found on some sites—for example, 80 upper and 64 left lower jaw-bones of pike and no less than 274 leister prongs and 11 hooks from Sværdborg—suggests that the pike fishing may even have been a principal reason for the summer occupation of low-lying bog sites. It is even possible that the preponderance of head-bones from Sværdborg remarked by Herluf Winge[1] may indicate that pike were dried for storing and use elsewhere at another time of the year. The extent of the pike fishery of the north European plain during Boreal times is brought out vividly on fig. 9, which shows finds of pike bones on Maglemose sites and in addition the distribution of forms of barbed bone points of a character known to have been used for this purpose.[2] Evidently, from the rarity of remains of other species, we have to do with a specialized pike fishery. In summer this was mainly carried on by spears as the fish lay quiet in still, shallow water. The comparative scarcity of hooks in relation to leister prongs on the summer camping-places is only what might be expected, since live-baiting is normally practised in the colder season. One is reminded irresistibly of Scheffer's description of fishing among the Lapps:[3]

> 'Their way of fishing alters with the season, in the Summer usually with drag nets, between two boats, or else with spears like Tridents, but that they have more teeth. With these they strike pikes, especially when they ly sunning themselves near the top of the Water: they do the same by Night burning dry wood at the prow, by which light the Fish are enticed thither.'

Fig. 8.

Maglemose leister prong dredged from 'moorlog' between the Leman and Ower banks in the North Sea (*c.* $\frac{1}{1\,7}$)

From the fact that so many leister prongs have been recovered from old lake-beds and that paddle rudders were found at Holmegaard and Duvensee, it may be assumed that the Maglemose fishers worked from boats, though whether, like so many of the peasants of modern Europe,[4] they used torches to attract and illuminate the fish at night

[1] H. Winge in K. Friis Johansen, 'En Boplads fra den ældste Stenalder i Sværdborg Mose', *Aarboger*, 1919, 106–235, Copenhagen. See p. 128. On the other hand, M. Degerböl (T. Mathiassen, *op. cit.* 1943, 192) suggests that the heads were numerous merely because more liable to survive than other bones.

[2] i.e. forms 2–8 of J. G. D. Clark, *op. cit.* 116.

[3] J. Scheffer, *The History of Lappland* (transl.), London, 1674, p. 107.

[4] For references see p. 675 of B. Bonnerjea, 'La Pêche chez les peuples Finno-Ougriens', *L'Anthropologie*, t. xlix, 661–96, Paris, 1939–40.

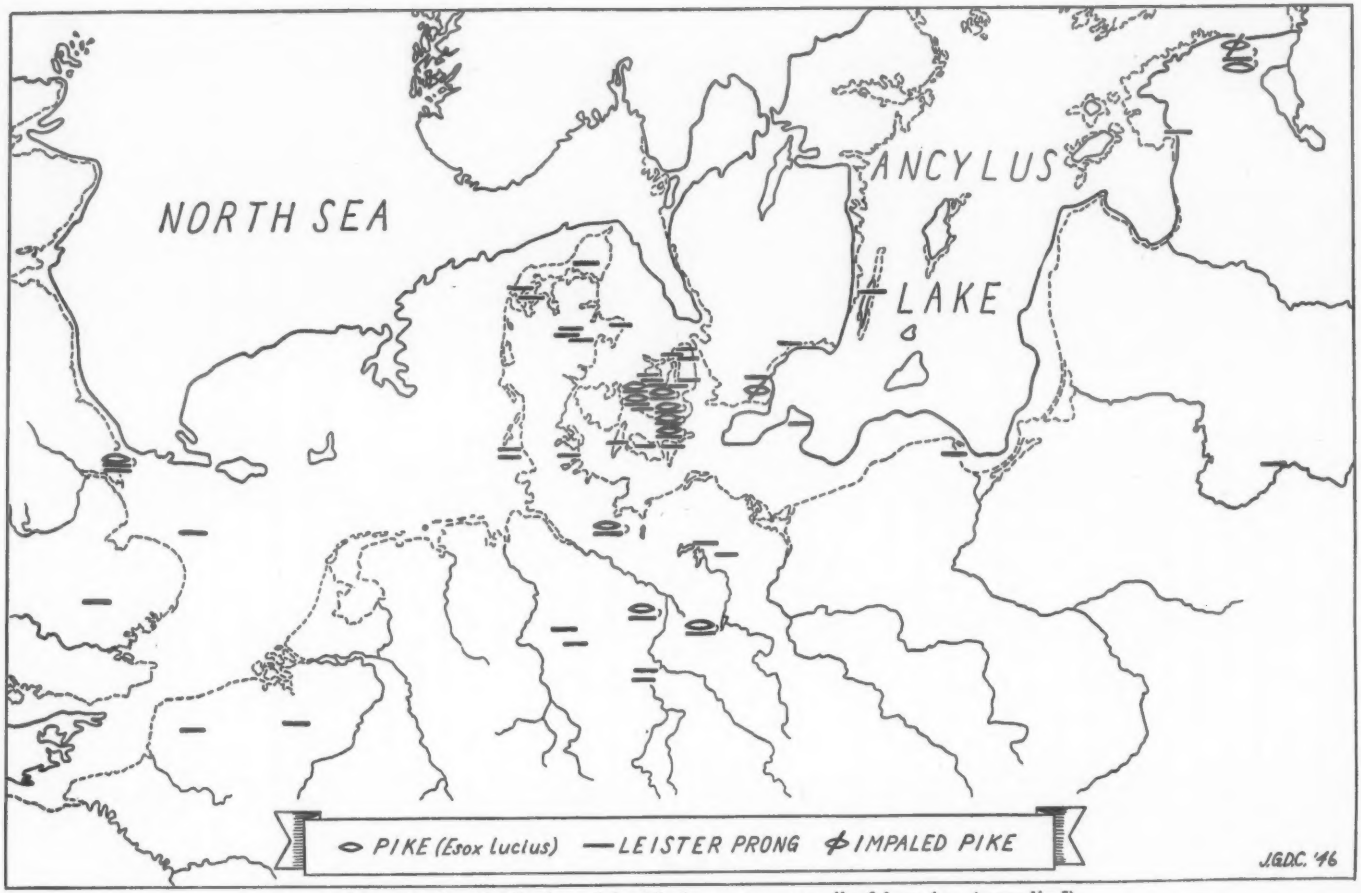


FIG. 9. Map showing distribution of the Maglemose summer pike-fishery (see Appendix I)

we can hardly say. The recovery from Esthonian lake-deposits of what are interpreted as ice-picks[1] in more northerly latitudes suggests that fishing was also carried on through holes in the ice.

Towards the end of Mesolithic times a first tentative beginning was made towards sea-fishing from boats, more especially in north Britain and Scandinavia. There is no evidence that the Asturians of north Spain practised sea-fishing, but the Tardenoisian middens of Téviec and Hoëdic of the south coast of Brittany yielded bones of marine fish in such quantities as to indicate that fishing, although less important than the gathering of shell-fish, yet contributed more to diet than hunting.[2] From the abundance of bones of Labroids and Wrasses it would seem that the islanders confined their fishing to inshore waters, as do their descendants to this day. Wrasses, which haunt weed-covered rocks, are usually caught on lines and it is significant that the middens yielded specimens of bone gorges.[3]

Farther north the middens of the Obanian people on the islands and coasts of western Scotland give further insight into this early stage of inshore fishing and cod bones have been identified from an Early Atlantic level at Cushendun in Northern Ireland.[4] The early inhabitants of Oronsay, as well as catching black sea-bream most probably from the rocks, must surely have fished from boats, since they took conger, haddock, common sea-bream, ballan wrasse, thornback ray, skate, and a number of sharks.[5] The occurrence at Caisteal-nan-Gillean[6] and Cnoc Sligeach[7] on Oronsay and at MacArthur's Cave, Oban,[8] of numerous claws of edible crabs, which normally live in relatively deep water[9] led Henderson Bishop to infer that traps must have been used to catch them.[10] In view of what we know of the antiquity of the plaited weel in Denmark, there is nothing improbable in this suggestion and the need to provide bait for crab traps would explain why the Cnoc Sligeach people troubled to catch the ballan wrasse;[11] but crabs may have been taken on shore as well as in the course of line-fishing. The grey mullet, which occurred at Caisteal-nan-Gillean and which is highly esteemed for eating, differs from the other fish mentioned in that it commonly swims on or near the surface, especially during the summer. Although generally caught in nets to-day, it is possible that in antiquity it was taken by means of casting spears, as it was recently in Ireland and even at Margate, where in the summer of 1880 'an Italian gentleman' attracted some attention by catching the fish 'with a harpoon [*sic*], something like an eel-spear attached to a line'.[12] We have it on the authority of

[1] R. Indreko, *op. cit.* 1934, 269–71.

[2] M. and S.-J. Péquart, *Téviec. Station-nécropole mésolithique du Morbihan*, Arch. Inst. Pal. Humaine, Mém. 18, Paris, 1937. See pp. 99–100.

[3] *Ibid.*, pls. XII–XIII, nos. 1–3.

[4] H. J. Movius, *The Irish Stone Age*, Cambridge, 1942. See p. 128.

[5] *Squalus squatina*, *S. galeus*, *S. acanthias*.

[6] J. Anderson, 'Notes on the Contents of a Small Cave or Rock-shelter at Druimvargie, Oban; and of three Shell-mounds in Oronsay', *Proc. Soc. Ant. Scot.* xxxii, 298–313, Edinburgh, 1898. See p. 311.

[7] A. Henderson Bishop, 'An Oronsay Shell-mound—a Scottish Pre-Neolithic Site', *Proc. Soc. Ant. Scot.* xlviii, 52–108, Edinburgh, 1914. See p. 106.

[8] J. Anderson, 'Notice of a Cave recently discovered at Oban . . .', *Proc. Soc. Ant. Scot.* xxix, 211–30, Edinburgh, 1895. See p. 228.

[9] e.g. *Cancer pagurus* and *Portuna puber* from Cnoc Sligeach, Oronsay.

[10] A. Henderson Bishop, *op. cit.* 104.

[11] F. Day, *The Fishes of Great Britain and Ireland*, 2 vols., London, 1880–4, i, 255.

[12] *Ibid.* i, 235.

FIG. 9. Map showing distribution of the Maglemose summer pike-fishery (see Appendix I)

Martin Martin that towards the close of the seventeenth century the Hebrideans used to spear a fish known as the 'Grey Lord'.[1] It has been suggested that the bone points having two rows of barbs, one of the type fossils of the Obanian culture, formed the heads of such spears, but from the perforations in their bases it seems more probable that they were true hunting harpoons.

From the Litorina shores of Denmark there is available a number of coastal sites of Mesolithic III age which, although marked by middens largely composed

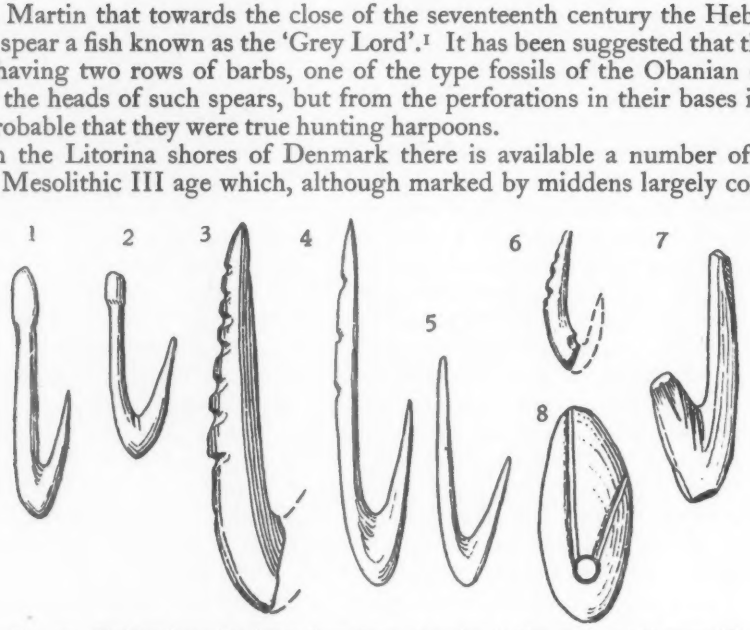


FIG. 10. Barbless bone fish-hooks from Stone Age sites in Denmark and Norway (½)
No. 1, Ertebölle; no. 2, Bloksbjerg; nos. 4–7, Viste, near Stavanger; no. 8 (in course of manufacture), Gåsen, Bore, near Stavanger

of marine shell-fish, have yielded a vertebrate fauna predominantly inland or fresh-water in character. Among the fish, which formed an insignificant element, fresh-water species are common: at Ertebölle[2] eel, roach, and to a less degree pike accounted for most of the fish remains, yet bones of cod, flounder, and gar-pike testify to sea-fishing, and the species represented at other sites show clearly enough that, even if salt-water fish contributed to diet only in a minor way, yet line-fishing from boats in a considerable depth of water must already have begun. Cod bones were present at at least half a dozen Mesolithic III sites in Denmark, although it is worth noting that, where their age grouping was specified, they were attributed to young fish. Of greater significance was the occurrence, emphasized by Degerböl,[3] of bones of large, mature specimens of haddock and coal-fish, since both are habituated to depths of from 40 to 100 metres and imply line-fishing, which on these coasts must have been carried on from boats at a good distance from shore. The hooks used in this coastal fishery were invariably barbless at this time (fig. 10, nos. 1, 2).

[1] Martin Martin, *A Description of the Western Islands of Scotland*, 1934 ed., Stirling. See p. 200.

[2] A. P. Madsen *et al.*, *Affaldsdynger fra Stenalderen i Danmark*, Copenhagen, 1900, pp. 81–2.

[3] M. Degerböl, 'Subfossile Fisk fra Kvartærtiden i Danmark', *Vidensk. Medd. fra Dansk naturh. Foren.*, Bd. cviii, 103–60, Copenhagen, 1945. See p. 140 f.

As might have been expected, the chief line-fishery of prehistoric Europe is found on the west coast of Norway. Not only is the coast rich in cod, ling, coal-fish, and other bottom-feeders, but the deep fjords which indent it bring them closer to land than in most regions; the fisherman had only to move a short distance out to bring within reach a number of the choicest varieties. Precisely at what stage, in terms of the Danish sequence, this fishery began, it is difficult to estimate precisely, but, if one accepts the current dating of the rock-shelter Svarthåla, Viste, near Stavanger,[1] it should go back in south-west Norway to Mesolithic III times. As Brögger was quick to remark, each of the eight species of fish represented in the midden was adapted to salt water and was of a kind normally caught by hook and line: by far the commonest was the cod of which large quantities of bones were found, others such as haddock and ling being represented by the remains of one or two individuals only; significantly, ten bone hooks, mainly fragmentary, were recovered from the 8 cubic metres of deposit investigated (fig. 10, nos. 3–7).

Neolithic—Iron Age

Fishing continued to provide an element in diet among the peoples of Europe until modern times; indeed it appears to have been intensified with each advance in economic organization, developing, especially on the coast, among farmers and actually culminating with the attainment and growth of urban economy.[2] The fisherman from Neolithic times onwards was as a rule a farmer, who in due season responded to the age-old opportunities provided by the migrations and spawning of the several kinds of fish. Fishing was dovetailed into the farming year like any other branch of the food-quest; whether based on the run of salmon or the approach inshore of spawning fish, the various fisheries represented seasonal activities and frequently gave rise to seasonal settlement. Such, for instance, are the sites in the Bann River valley in Northern Ireland, interpreted by Movius[3] as belonging to a distinct culture 'developed by (the) indigenous Mesolithic survivors . . . pushed inland by invading Late Stone Age groups . . .', but in reality, it may be suggested, the scene of a specialized fishery on the part of peasant farmers. Or, again, there are the so-called 'sandhill sites' of the northern and western coasts of Ireland, characterized by old land-surfaces often stratified one above the other, separated by sterile layers and yielding antiquities ranging in age from Neolithic to early Christian: although, once more, treated by Movius[4] as pertaining to groups of epi-Mesolithic hunter-fishers continuing their old way of life alongside communities of farmers, there is little doubt that these sites were no more than the seasonal camping-places of peasants who visited the sea-shore to gather the various harvests of the sea. Traces of similar temporary settlements of prehistoric farmers on or close to the sea-shore, and likewise characterized by sterile layers, are known from

[1] A. W. Brögger, *Vistefundet. En ældre stenalders Kjökkenmödding fra Jæderen*, Stavanger, 1908. For a recent opinion on the age of the site, see H. Shetelig and H. Falk, *Scandinavian Archaeology*, Oxford, 1937, p. 34, n. 2.

[2] A. W. Brögger, 'From the Stone Age to the Motor Age. A sketch of Norwegian cultural history', *Norsk Geografisk Tidskr.*, Bd. vii, 77–97, Oslo, 1939. See pp. 91–3.

[3] H. J. Movius, *op. cit.* 1942, 251.

[4] *Ibid.* 252–4 (with references) and fig. 59.

Scotland[1] and from Wales.[2] Similar sites, extending over a similar range of time, have recently been examined among the sand-dunes of the south-east Scanian coast of Sweden, and interpreted as traces of fishing-camps.[3] Even in medieval times the herring fishery of the Sound was shared by farmers from all over Denmark, who set up temporary camps on the shore at the appropriate season.[4] As for the line-fishery of the Norwegian coasts, this has been carried on since the period of

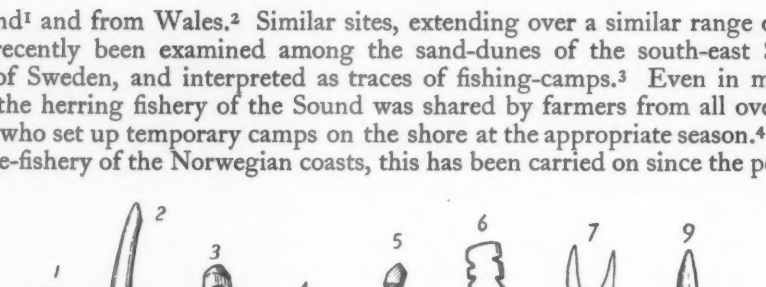


FIG. 11. Hooks of bone and boar's tusk enamel from the Swiss lake-villages (Lake Bodman, nos. 1–3; Wangen, no. 4; Moosseedorf, no. 5), from Olno (no. 6) (Cunningham's Island, Lake Erie: *after Rau*), and from Skipshelleren, near Bergen, Norway (nos. 7–9) (Bergen Museum) (⅔)

the Stone Cists by farmers as a seasonal occupation.[5] The methods employed by the peasants, which in many cases survived in the folk-cultures of the ancient and modern worlds, were basically those of the Mesolithic hunter-fishers, although many of the appliances reflect progress in technology. A good case is the fish-spear, bronze or even iron versions of which were sometimes made with each prong separate as in the bone or antler prototype:[6] as a rule, however, iron ones were made in one piece, having the prongs united in a tang[7] or a socket;[8] lastly, with the widespread use of steel, came the form with prongs at right angles to a cross-piece attached to a socket. The degree to which the leister, generally of metal, but occasionally still of organic materials, even of wood,[9] survived for catching pike and salmon is shown by the widespread legal enactments and prohibitions against their use made during the nineteenth century. To-day the form survives as a

[1] e.g. Glenluce, Wigtownshire (see Appendix III) and Gullane Sands, Haddingtonshire (see V. G. Childe, *The Prehistory of Scotland*, 1935, *passim*).

[2] e.g. Dyserth Castle, Flint (see Appendix II B) and Merthyr Mawr, Glamorgan (C. Fox, 'A Settlement of the Early Iron Age . . .', *Arch. Camb.* 1927, 44–66.

[3] C.-A. Althin, 'En fångstplats vid Sandhammaren', *Medd. från Lunds univ. hist. museum*, 1946, 39–59.

[4] S. Bolin, 'Medieval Agrarian Society in its Prime: Scandinavia', *The Cambridge Economic History of Europe*, i, 467–92, Cambridge, 1941, pp. 482–3.

[5] A. W. Brögger, *op. cit.* 1939, 82.

[6] e.g. the well-known bronze one from the lake-dwelling of Peschiera in north Italy (P. Keller, *op. cit.* 1878, pl. CXIX, 1, 3) and an iron version from the later Iron Age of Esthonia (H. Moora, *Die Vorzeit Estlands*, Tartu, 1932, Abb. 50, 9).

[7] e.g. a Wendish specimen from Ketzin (E. Krause, *op. cit.*, Abb. 96, 97).

[8] e.g. from La Tène (P. Vouga, *La Tène*, Leipzig, 1923, pl. XXIII, 15).

[9] H. Fernholm, 'Ljusterfiske, En översikt över redskap och metoder', *Folk-Liv*, 1942, t. vi, 50–72. See pl. XIII *a*.

poacher's weapon and in a modified form, with flat notched prongs, for taking eels.[1]

Another item of equipment to undergo development was the fish-hook. The most important innovation was the provision of a barb at the point opposing the shank, designed to render more difficult the escape of fish once hooked. Although the idea of the barb, as applied to harpoons, of course goes back to Magdalenian times, it seems likely that in the case of fish-hooks it was first applied to metal forms, being copied in such materials as bone or antler among poor marginal peoples. At any rate it is significant that the hooks used by the Mesolithic hunter-fishers and by the earliest farmers[2] of Europe were uniformly barbless. Krause,[3] it is true, suggested that the barbed form was in reality a European invention, arising from hooks made from organic materials by means of the Mesolithic bow-drill process. As evidence, he pointed to a series of hooks from 'Neolithic' lake-dwellings in the Alpine area, made from bone or from boar's tusk enamel,[4] in which the drill has cut into shank and point in such a way that the latter might appear to be barbed (fig. 11, nos. 2, 4, 5); on closer inspection, however, it will be seen that the points of these hooks, like those of analogous ones from the Late Stone Age in west Norway (fig. 11, nos. 7–9), are triangular in profile and that the overhang of the true barb is missing. It is interesting to note that a precisely similar form is known from the New World[5] (fig. 11, no. 6), where according to Rau[6] barbed hooks only came in with European contacts. Actually the oldest group of hooks with true barbs surviving from European soil is that from the northern margin of the Neolothic world, consisting entirely of specimens made from organic materials, such as bone or the enamel of boars' tusks. From Denmark one may cite isolated examples from Ordrup and from the fourth phase of the coastal middens;[7] single examples come from two stone cists on the Swedish

[1] E. Krause, *op. cit.* 175 ff., gives many early references. Other useful ones include: British Isles (E. E. Evans, *Irish Heritage. The Landscape, the People and Their Work*, Dundalk, 1942, p. 147; M. Martin, *op. cit.* 200; I. C. Peate, *Guide to the Collection of Welsh Bygones*, Cardiff, 1929, p. 45 and pl. xxix, 1–3); Switzerland (C. B. Klunzinger, *op. cit.* 115–17); Hungary (J. Jankó, *op. cit.* S. 481 ff.); Prussia (H. Busse, 'Fisch-Speere aus der Spree-Gegend bei Fürstenwalde, Kreis Lebus', *Verh. d. Berliner Ges. f. Anthropologie, Ethnologie und Urgeschichte*, 1899, 296–7); Sweden (L. von Buch, *Travels through Norway and Lapland during the years 1806, 1807 and 1808*, London, 1813, pp. 350–1; H. Fernholm, *op. cit.*); Finland (I. Manninen, *Die Finnisch–Ugrischen Völker*, Leipzig, 1932, S. 27 and Abb. 18*j*); Russia (B. Bonnerjea, *op. cit.* 675 ff.).

[2] e.g. from Italy (U. Rellini, *La Più Antica Ceramica Dipinta in Italia*, Rome, 1934, fig. 7) and the Ukraine (S. Magoura in V. Kozlowska and P. Kourinny, *La Culture de Tripolje en Ukraine*, Kiev, 1926, fig. 7). As to the fish-hooks from the mound of Vinča, barbed and unbarbed specimens occurred in equal numbers, but it may be noted that the former appear to have been confined to the upper levels. Of the dozen examples illustrated, six were barbed and six unbarbed: all the former came from the upper six metres, whereas half the latter were found in the lower four metres (M. M. Vassits, *Preistoriska Vinča*, vol. iv, tab. lxxvii, and p. 159, Belgrade, 1936).

[3] *Op. cit.* 219–20.

[4] e.g. Meersburg (E. Krause, *op. cit.*, Abb. 347), Moosseedorf (*ibid.*, Abb. 350), and Wangen (*ibid.*, Abb. 348–9).

[5] C. Rau, *op. cit.*, fig. 188.

[6] *Ibid.*, pp. 128–9.

[7] e.g. from Kolind (T. Mathiassen *et al.*, *Dyrholmen. En stenalderboplads paa Djursland*, Copenhagen, 1942, fig. 20, no. 2) and from Ordrup and Sölager (C. J. Becker, 'En Stenalderboplads paa Ordrup Næs i Nordvestsjælland', *Aarbøger*, 1939, 199–280; p. 261).

mainland (fig. 12);[1] considerable numbers are available from the coastal dwelling-places and burials of the sub-neolithic groups of Gotland (fig. 13) and west Sweden; and even larger numbers come from the summer fishing-stations of the Norwegian coast dating from late Neolithic till Iron Age times (fig. 19).

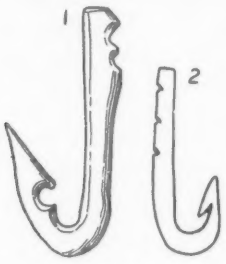


FIG. 12.

Hooks from stone cists, Sweden (⅔)

No. 1, from Alnäs Västergaard, Östergotland; no. 2, from Ranten, Västergotland

Unless it be supposed that the barbed hook was invented independently in the north, all these Scandinavian versions, none of which need be earlier than the first half of the second millennium B.C., may be interpreted as substitutes for metal forms,[2] which appeared well back in the third millennium B.C. in the Ancient East. The earliest barbed hooks I have been able to trace are those noted by Mackay at Jemdet Nasr in Iraq[3] (fig. 14, no. 1), and closely paralleled from Ur[4] (nos. 2, 3), which, however, it is essential to recognize, are *externally*, not internally barbed. Judging by analogy with shell and bone hooks of similar form from Santa Cruz (no. 4), New Zealand, Hudson's Bay (no. 5), and Greenland,[5] these hooks with external barbs had nothing to do with hooking fish, but were designed simply to secure the bait. Hooks with external barbs were sometimes indeed provided with internal ones in addition, as from the upper levels at Vinča (nos. 6, 7). Metal hooks having internally barbed points do not seem to have appeared in Egypt until the eighteenth[6] dynasty (fig. 5, nos. 10), but in Mesopotamia these were in use by Early Dynastic times (no. 11)[7] and the metal hooks from Mohenjo-Daro in the Indus Valley were normally barbed (no. 12).[8] A point worth noting is that the barbed hook by no means displaced the more primitive barbless form, which survived throughout the Bronze[9] and Iron[10] Ages and even into modern times.[11]

[1] Viz. Ranten, Västergotland (O. Montelius, *Vår Forntid.*, Stockholm, 1919, fig. 30), and Alnäs Västergaard, Östergotland (O. Montelius, *Minnen från vår Forntid.* i, Stockholm, 1917, no. 623).

[2] Metal fish-hooks did not appear in numbers in Europe until the Late Bronze Age. A barbless copper hook may, however, be cited from the Painted Pottery site of Priesterhügel (V. G. Childe, *op. cit.* 1929, fig. 66, no. 34).

[3] E. Mackay, *Report on Excavations at Jemdet Nasr, Iraq*, Chicago, 1931, pl. LXXV, 4.

[4] U. 8672 and U. 8967.

[5] C. Rau, *op. cit.*, figs. 196–9, 200–1, 215. The specimen from Chesterfield Inlet, Hudson's Bay, actually had an internal barb, due to European contacts, as well as an external bait barb.

[6] Sir Flinders Petrie, *op. cit.* 1917, pls. XLIII and XLIV, illustrates a good series of Egyptian fish-hooks, among which are barbed specimens from Amarna (XVIIIth dyn.) and Gurob (XVIIIth–XIXth dyn.).

[7] E. Mackay (*Report on the Excavation of the 'A' Cemetery at Kish, Mesopotamia*, Pt. II, Chicago, 1929, pl. XXXIX, 4) illustrates a barbed metal hook from the 'A' mound at Kish and compares it with one from the Early Dynastic site at Fara (p. 166).

[8] E. Mackay, *The Indus Civilization*, London, 1935, p. 129 and pl. P, 10.

[9] Barbless fish-hooks, usually with a pointed shank, are common from Bronze Age contexts in Greek lands, e.g. from Palaikastro (R. C. Bosanquet and R. M. Dawkins, *The Unpublished Objects from the Palaikastro Excavations 1902–3*, London, 1923, pl. XXV), Phylakopi III (C. C. Edgar *et al.*, *Excavations at Phylakopi in Melos*, London, 1904, pl. XXXVIII, 10), and Eutresis (H. Goldman, *Excavations at Eutresis in Boeotia*, Cambridge, Mass., 1931, fig. 286, 6). Some barbless hooks occurred, also, at the Classical Greek site of Olynthus, among many other barbed ones (D. M. Robinson, *Excavations at Olynthus*, Baltimore, 1941, pl. CXVII). In

[10, 11] *See opposite page.*

Another innovation from near the close of the Stone Age in Europe was the composite hook made from two pieces lashed together, the point seated in a slot at the base of the shank, the opposite face of which was often grooved to secure the binding (fig. 15). Although widely distributed at the present day among modern

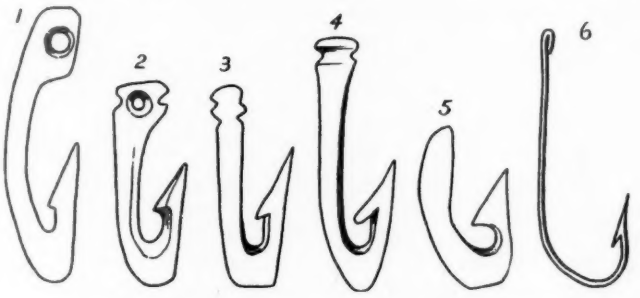


FIG. 13. Fish-hooks from sub-neolithic sites on Gotland ($\frac{2}{3}$)

No. 1, Hemmor; no. 2, Stora Förvar; nos. 3–5, Visby. Note: no. 6, modern steel codling hook for comparison

primitive peoples, the composite hook appears an integral element of the circumpolar culture extending from Norway to Siberia. In Norway it was first recognized at Ruskenesset (fig. 19, no. 13),[1] but has since been found at Skipshelleren[2] and other fishing-stations on the west coast, in no case earlier than the period of the Stone Cists in Denmark. The stone shanks of similar hooks are known from dwelling-places of the comb-ware people of Finland,[3] and composite hooks have been recorded from Latvia,[4] the Kola peninsula,[5] the Tsarist government of Vladimir,[6] and, more recently, from the Angara-Baikal

the Alps and neighbouring areas barbless hooks occurred in Late Bronze Age contexts, both from lake-dwellings (F. Keller, *op. cit.* 1878, pl. c, 21 and pl. CLVII, 12; E. Chantre, *Âge du Bronze*, Paris, 1875, pl. LXIII, 8, 9, 11) and from hoards (E. Chantre, *op. cit.*, pl. XLIII, 7). A barbless fish-hook occurred in a late Lausitz grave at Přelouč, Czechoslovakia (J. Schránil, *Die Vorgeschichte Böhmens und Mährens*, Berlin, 1928, Taf. XXVIII, no. 11).

[10] e.g. from La Tène (P. Vouga, *op. cit.*, pl. XXIII, nos. 1–3); R. Indreko (*op. cit.* 1937, fig. 4, no. 4) illustrates one from the Middle Iron Age of Esthonia; a number of barbless iron fish-hooks were found at the great Polish stronghold of Gniezno (J. Kostrzewski, *Gniezno*, Biblioteka prehistoryczna, t. iv, Poznań, 1939, p. 46 and tab. L, 13–16); a barbless iron hook came from the 11th-century town of Aranaes in Västergotland, Sweden (B. Schnittger and H. Rydh, *Aranaes. En. 1100—tals borg i Västergotland*, Stockholm, 1927, pl. x, 5).

[11] The wooden fish-hooks of modern European folk-culture are invariably barbless.

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[1] A. Brinkmann and H. Shetelig, *Ruskenesset, En stenalders jagtplass*, Norske Oldfund, iii, Christiana, 1920, p. 34 and pl. VIII, 54–6.

[2] J. Böe, *Boplassen i Skipshelleren*, Bergens Mus. Skr. Nr. 17, Bergen, 1934, pl. VI.

[3] S. Pälsi, *op. cit.*

[4] Ebert's *Reallexikon*, xi, Taf. 25.

[5] J. Böe, *op. cit.* 36.

[6] P. Koudriavtsev, 'Les Vestiges de l'homme préhistorique de l'âge de la pierre près du village Volosova, district et gouvernement de Vladimir', *Congr. int. d'arch. et d'anthr. préhist.*, 11[e] sess., Moscow, 1892, t. ii, 233–62, fig. 29.

region of Siberia.[1] Undoubtedly the composite hook was stronger and more reliable than the hook of bone or wood made from one piece, the line of weakness of which lay precisely at the junction of shank and point, as illustrated by the numerous broken specimens from prehistoric sites,[2] but it is significant that the device of making up the hook from two pieces and lashing them together was only resorted to in areas beyond the effective reach of metal.

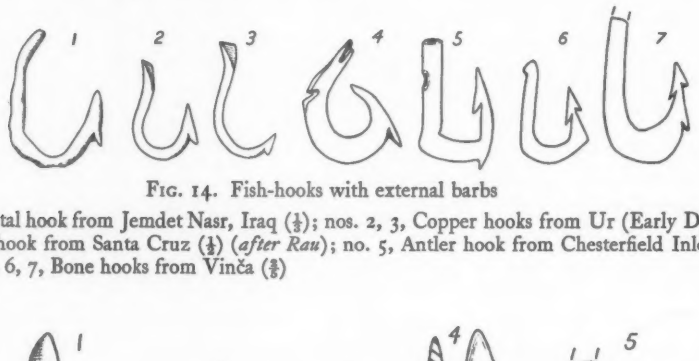

FIG. 14. Fish-hooks with external barbs

No. 1, Metal hook from Jemdet Nasr, Iraq (½); nos. 2, 3, Copper hooks from Ur (Early Dynastic) (⅔); no. 4, Shell hook from Santa Cruz (½) (*after Rau*); no. 5, Antler hook from Chesterfield Inlet, Hudson's Bay (½); nos. 6, 7, Bone hooks from Vinča (⅔)

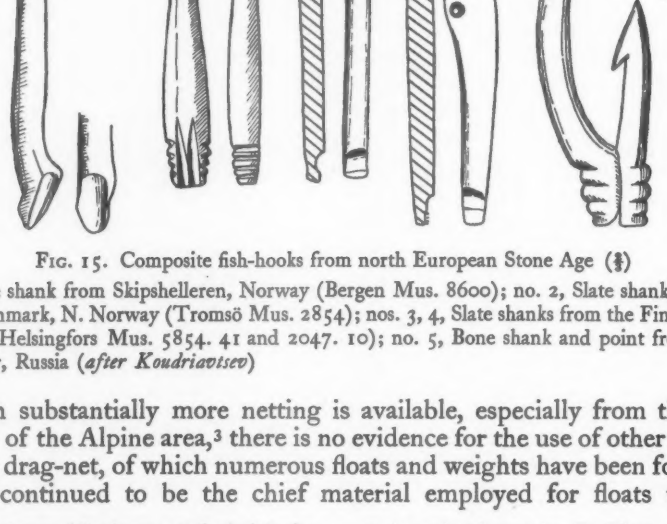

FIG. 15. Composite fish-hooks from north European Stone Age (⅔)

No. 1, Bone shank from Skipshelleren, Norway (Bergen Mus. 8600); no. 2, Slate shank from Halsen, Kvalsund, Finnmark, N. Norway (Tromsö Mus. 2854); nos. 3, 4, Slate shanks from the Finnish dwelling-place culture (Helsingfors Mus. 5854. 41 and 2047. 10); no. 5, Bone shank and point from Volosowa, Gov. Vladimir, Russia (*after Koudriavtsev*)

Although substantially more netting is available, especially from the lakeside settlements of the Alpine area,[3] there is no evidence for the use of other forms than the seine or drag-net, of which numerous floats and weights have been found. Bark and wood continued to be the chief material employed for floats throughout

[1] V. V. Fedorov, 'Quelques particularités des engins de pêche en pierre néolithiques', *Sovétskaya Arkheolôgiya*, iii, 101–12.

[2] Seven out of ten of the hooks from the Norwegian site of Viste were broken.

[3] As pointed out by E. Vogt (*Geflechte und Gewebe der Steinzeit*, Basel, 1937, p. 36), some of the netting recovered from the Swiss lake-villages may have been used for domestic purposes.

prehistoric times[1] and indeed down to the present day. It was in the materials used for weights that the improved technology of the peasant peoples showed itself. The use of fired clay for pottery, ovens, and other purposes was extended to provide net-weights which, it may be remarked, need to be distinguished carefully from loom-weights and thatch-weights. In the Danubian area perforated pear-shaped net-weights of fired clay, known locally as fishermen's pears, were used already in Neolithic times, as shown by discoveries at the settlement of Kökénydomb, near Hódmezövásárhely in Hungary, on the banks of a tributary of the Theiss.[2] The badly fired clay rings found 'very plentifully in the lakes of Bienne, Neufchatel and Geneva',[3] having diameters ranging from 3½ in. to 9½ in. with central holes from 2½ in. to 7 in. wide, were probably net-weights, as originally supposed, and not pot-supports as Keller was inclined to think;[4] some fifty examples, some with the twine still attached, were found in an Early Dynastic house at Khafaje in Mesopotamia,[5] together with remains of netting and a carbonized wooden float. There is evidence that lead was used before the end of prehistoric times, thirteen oblong weights having been found at the end of the causeway or landing-stage of the Iron Age lake-village of Glastonbury in the Somerset marshes.[6]

One may suppose that among the prehistoric peasants the larger size of social groups, their greater cohesion and capacity for co-operative enterprise, and their improved technology made it practicable to construct elaborate timber weirs, even though there is little positive evidence for this. It seems likely that the so-called 'river pile-dwellings' (*Flusspfahlbauten*), noted by Schumacher[7] in the bed of the Upper Rhine as far down as Anderach, and especially common in the immediate area of Mainz, were, despite his disclaimer, the remains of such weirs, most probably intended for salmon. Traces of what was almost certainly a fish-weir were found in the parish of Kyrkslatt, Nyland, Finland, when digging a new bed for a small stream near Lake Oitbacka in 1911,[8] in the form of vertical stakes and recumbent beams extending over some 13½ metres: to judge from the five dwelling-

[1] Bark and wood floats were found at Robenhausen, Wauwyl, and many other Neolithic and Bronze Age sites in the Alpine area (E. Krause, *op. cit.* 242–3 and Abb. 473–9). Bark floats were found at the Early Iron Age site at Biskupin (J. Kostrzewski, *Osada bagienna w Biskupinie w pow. znińskim.*, Poznań, 1936, Tab. XLVII, 3, 5) and at the early historical site of Gniezno (J. Kostrzewski, *op. cit.* 1939, Tab. LXXII).

[2] J. Banner, 'Die neolithische Ansiedelung von Kökénydomb', *Dolgozatok*, vi (1930), 107–58, pp. 117, 137; Taf. VI, 8–12. A similar pear-shaped weight is illustrated from Lipovac in eastern Yugoslavia by V. J. Fewkes ('Neolithic Sites in the Moravo-Danubian Area (Eastern Yugoslavia)', *Bull. Am. School of Prehistoric Research*, no. 12, 48 and pl. II, 43).

[3] F. Keller, *op. cit.* 1878, 150–1 and pl. XXXVIII, 14.

[4] It is likely that clay rings may have been used for several purposes. E. T. Leeds has suggested that examples from the Saxon village near Sutton Courtenay on the Thames served as loom-weights (*Archaeologia*, lxxiii, 180). On the other hand, his rejection of the net-weight explanation on the score of the rings having been found in a house is hardly convincing in view of the Khafaje discovery.

[5] H. Frankfort, *Tell Asmar and Khafaje. The First Season's Work in Eshnunna 1930/1*, Chicago, 1932, figs. 41–2. Similar clay rings were found at Mohenjo-Daro (E. Mackay, *Further Excavations at Mohenjo-Daro*, 2 vols., Delhi, 1938, p. 435).

[6] A. Bulleid and H. St. G. Gray, *The Glastonbury Lake Village*, Glastonbury, 1911, i, 243 and fig. 47.

[7] K. Schumacher, *Siedlungs- und Kulturgeschichte der Rheinlande. Bd.* 1, *Die vorrömische Zeit*, Mainz, 1921, S. 234 and Abb. 7.

[8] G. Topelius, 'Ett fiskstängsel från stenåldern', *Finska Fornm. Tidskr.* xxvi, 227–32.

places found close by, the weir must have been erected by predominantly hunter-fisher folk dwelling on the margin of the contemporary farming zone. The existence of timber weirs in several of the Irish salmon rivers can also be inferred with some probability (see p. 72). No doubt, as was the case in medieval and later times, such communal fishing must have been subject to more or less intricate social regulation; a community might be divided into groups to build and maintain weirs, individuals sharing in the catch as members of groups, and into a larger number of parties to work drag-nets.[1]

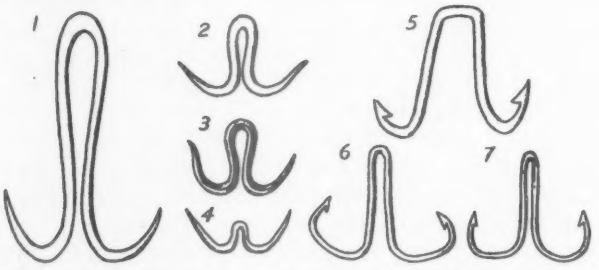

FIG. 16. Double hooks of bronze wire from the Late Bronze Age of the Alpine area (⅔)

No. 1, Lake of Starnberg (*after Keller*); no. 2, Nidau Steinberg, Lake Bienne (*ibid.*); no. 3, Chatillon, Lake Bourget (*after Chantre*); no. 4, Lake Neufchâtel (*after G. de Mortillet*); no. 5, Corcelette (*after Déchelette*); nos. 6, 7, Cortaillod (*after Rau*)

In considering the various fisheries developed among the peasant communities of prehistoric Europe, one may begin with those of the fresh-water lakes, widely spread, but for which the most abundant evidence has come from the lakeside settlements of the Alpine area. That successive groups of the lake-dwellers were addicted to fishing is shown not only by the wealth of fishing-gear, but also by the quantities of fish-scales and fish-bones found on their sites.[2] The species most frequently represented is the pike, which at the present day reaches a length of up to 2 metres in the Swiss lakes and among the fishermen of Lake Constance is regarded as a veritable 'bread fish'.[3] The normal method of catching pike in deep water is by using live-bait, although some are taken in nets, traps, and weirs. Many of the smaller roach, dace, chub, and perch caught by the lake-dwellers were probably used for baiting pike lines.[4] In addition to pike and various rather inferior fish, carp and a species of salmon were caught, as well as a few burbot. The deep water of the lakes meant that the fish-spear, though this was occasionally used, was not of foremost importance. On the other hand, lead sinkers and plummets,[5] as well as

[1] G. Nikander, 'Allmendewasser und -weise in den Dorfschaften von Schwedisch-Österbotten', *Folk-Liv*, 1938, 48–76.

[2] L. Rütimeyer, *Die Fauna der Pfahlbauten der Schweiz*, Zürich, 1862, S. 114. Also F. Keller, *op. cit.* 1878, 52 and 207.

[3] C. B. Klunzinger, *op. cit.* 22–3.

[4] As Keller remarked (*op. cit.* 1878, 201–2), the food refuse discarded from the lake-dwellings must have acted as a kind of ground-bait and this no doubt accounts for the ease with which the pile-dwellers of Lake Prasias are said by Herodotus (v, 16) to have secured fish by opening trap-doors and letting down baskets, presumably weels (see p. 55 f.).

[5] E. Krause, *op. cit.*, Abb. 418, 432.

quantities of fish-hooks, including double hooks of the type used in live-baiting for pike (fig. 16), as well as single ones (fig. 17), testify to the common employment of line-fishing. Rau and Krause have interpreted certain wooden objects from Robenhausen having short branches radiating at an oblique angle to the shaft as line-

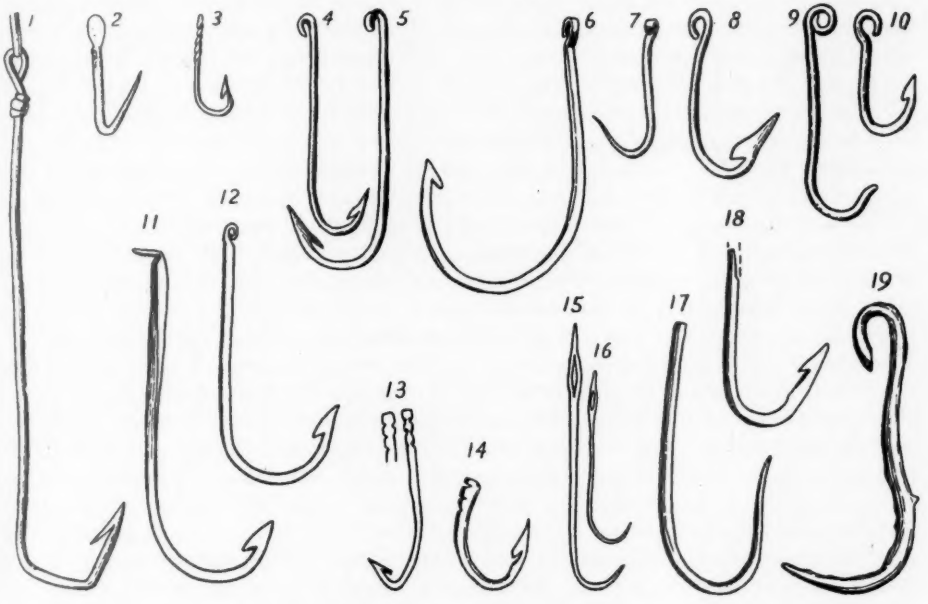

FIG. 17. Single hooks from the Late Bronze Age and Early Iron Age of the Alpine area (all at ⅔, except nos. 4, 5 at ¼)

Nos. 1, 2, La Tène (*after Vonga*); no. 3, Hallstatt (*after von Sacken*); nos. 4, 5, Unter Uhldingen, Ueberlinger See (*after Keller*); nos. 6, 7, Montelier, Lake Morat (*ibid.*); nos. 8–10, Lake Bourget (*after F. Keller*); no. 11, Scheuss, Lake Bienne (*ibid.*); no. 12, Lattringen, Lake Bienne (*ibid.*); no. 13, Lake Neufchâtel (*after G. de Mortillet*); nos. 14–16, Gresine, Lake Bourget (*after Chantre*); nos. 17–19, Larnaud hoard, Jura (*ibid.*). Note: all are of bronze, except no. 2 of iron

lifters or grapnels,[1] but precise analogues were recently in common use in northern Europe as stirrers or whisks. In modern times the lake fishermen use a great variety of drag or seine nets suited to different fish and different types of bottom, as well as scoop, sink, trawl, and set nets, and there is evidence that as early as Neolithic times the lake-dwellers relied on nets, notably drag-nets, to an important degree. Another feature of the modern fisheries in the Alpine area is the great importance of boats, and it is particularly interesting to note that dug-out canoes, a

[1] C. Rau, *op. cit.* 50–1 and figs. 52–4; E. Krause, *op. cit.* 231 and Abb. 435. J. Kostrzewski (*op. cit.* 1936, Tab. XLVI, 1, 4) interpreted similar objects as chocolate whisks.

type well known to the prehistoric lake-dwellers, were extensively used for fishing in historical times and indeed still survive for this purpose on the Ägerisee.[1]

For the most part the inland fisheries of Europe were devoted to the satisfaction of day-to-day needs and were carried on throughout the year by a variety of methods. On the other hand, in the case of anadromous fish, which like salmon or sturgeon ascended rivers from the sea to spawn in fresh water, or catadromous fish like eels, which descended to spawn in salt water, the chief fisheries synchronized with seasonal runs and were often associated with the curing of fish by smoking or drying for use at a later season. It must be remembered that not so very long ago salmon penetrated far up the great Atlantic rivers, reaching for instance as far inland as Prague, Schaffhausen, and Zurich:[2] at first no doubt they would be caught at points where their passage was impeded by natural obstacles, as they are by the Indians of British Columbia,[3] but artificial weirs, of which Schumacher's *Flusspfahlbauten* may well be traces, must have been brought into use among the prehistoric peasants. Dr. A. Mahr was surely right to emphasize[4] the occurrence in the great Irish salmon rivers, usually near the outlet of a lake, of concentrations of stone wood-splitting tools and clubs, such as could well have been used to construct timber weirs and dispatch the salmon caught in them. Yet there seems no justification for referring these to a specific 'Riverford culture'. Rather should one see in such finds traces of a seasonal activity, the fishery based on the summer run of salmon. Instructive evidence has indeed been obtained at Newferry on the Bann, close to the outlet of Lough Beg, where Dr. Hallam Movius[5] found polished basalt axes and numerous flint blade implements, associated with some thirty hearths and an immense spread of ash overlying a lacustrine silt and sealed by a deposit of diatomite. Detailed investigation of the site showed that it could only have been occupied during the dry months of summer, but that it was revisited several times. From the exceptional number of hearths, the absence of refuse, and the extent of the ash deposit the excavator concluded that the site was occupied during the summer for the purpose of smoking and drying fish. Although no bones of any kind were recovered, the most likely explanation is that the fish concerned were salmon caught in a nearby weir at the time of the summer run. If this is the case, the flint blades could be interpreted[6] as knives used in curing the fish: writing of the Indians of British Columbia, Lord[7] specifically states that 'with sharp knives they rip the salmon open', and according to a seventeenth-century account cited by Rau[8] the Huron Indians were accustomed in addition to make incisions to allow the smoke to penetrate the fish thoroughly. The Newferry site is dated by pollen-analysis to a period contemporary with the Neolithic settlement of Northern Ireland and in addition yielded part of a Neolithic bowl of a type found in megalithic tombs; here, surely, we have to do with a seasonal fishery, an activity in which

[1] L. Rütimeyer, *Ur-ethnographie der Schweiz*, Basel, 1924, S. 302–8. [2] G. Klemm, *op. cit.* 103.

[3] J. K. Lord, *op. cit.* 68–75.

[4] A. Mahr, 'New Aspects and Problems in Irish Prehistory', *Proc. Prehist. Soc.* 1937, 262–436, pp. 283 ff.

[5] H. J. Movius, 'A Neolithic Site on the River Bann', *Proc. Roy. Irish Acad.* xliii, C (1936–7), 17–40.

[6] H. J. Movius (*op. cit.* 1942, 244) suggested that the flakes might have formed parts of multi-pronged fish-spears, but it is the essence of leister prongs that they should be resilient.

[7] *Op. cit.* 1866, i, 74. [8] *Op. cit.* 270.

peasants reverted for a time to the ways of their hunter-fisher forebears, rather than with a 'culture' of surviving hunter-fishers.

While it may be taken for granted that the sturgeon was the object of seasonal fisheries in early times, especially in south-eastern Europe, it must be admitted that the evidence is as yet very unsatisfactory. Mentions of fish-bones and scales are numerous in the literature of Danubian archaeology and it has even been suggested that the fish in which this river abounds may have attracted the first Neolithic colonists.[1] Precise studies of the remains from this area are rare, but sturgeon bones were common at Vinča[2] on the banks of the Danube near Belgrade and were also identified at the nearby site of Starčevo.[3] At the former site fish-hooks occurred at all levels, while at both there were present deer-antler harpoons,[4] barbed on either edge and with swellings at the base for securing the line, of a type also found at Csóka,[5] Kenézló,[6] and elsewhere in the area. Professor V. G. Childe's[7] interpretation of such objects as fish-harpoons is supported by analogy with recent practice in the sturgeon fisheries of British Columbia. According to Lord's graphic account,[8] the Indians harpooned sturgeon in the Fraser River from canoes which operated in groups of four: the harpooner, whose weapon had a detachable head mounted on a long wooden handle and secured directly to a line, sat in the prow and felt his way along the bottom until he came into contact with a sturgeon's back; then, having struck home, he jerked the head of his harpoon free by a dexterous movement and played the fish on the line to which it remained secured. The annual run of sturgeon upstream, even if not a prime factor in the colonization of the Danube and its tributaries, may at least have stimulated their exploration by attracting fishermen.

In the case of eels, which spawn at sea, the best catch is to be made at the time of the downward migration in summer or autumn, although huge numbers of very young ones are sometimes taken in spring during the run upstream. Among the devices used for catching eels may be numbered seine nets, lines, spears, weirs, and traps, the latter often secured to a fence or barrier.[9] Remains of eels from prehistoric sites in Europe are by no means widespread or abundant, though sufficient bones were found at Ertebölle in Jutland[10] and Hemmor, Gotland,[11] to indicate that they were caught in substantial numbers at least during the Stone Age in the Baltic area. It is possible that the taking of eels was limited in ancient times, as it still is to-day in some areas, such as Scotland, by superstitious scruples.[12]

[1] V. G. Childe, *The Danube in Prehistory*, Oxford, 1929, p. 34.

[2] Information from Mr. C. A. Ralegh Radford, F.S.A., who noted the bones in the museum at Belgrade.

[3] V. J. Fewkes *et al.*, 'Excavations at Starčevo, Yugoslavia, Seasons 1931 and 1932', *Bull. Am. School of Prehist. Research*, no. 9 (1933), 33–54, p. 48.

[4] V. G. Childe, *The Dawn of European Civilization*, 3rd ed., London, 1939, fig. 43.

[5] V. G. Childe, *op. cit.* 1929, fig. 17.

[6] F. von Tompa, '25 Jahre Urgeschichtsforschung in Ungarn 1912–1936', *Ber. der Röm.-Germ. Komm. 1934/5*, 27–127, Taf. 13, nos. 10, 14.

[7] V. G. Childe, *op. cit.* 1929, 29–30; *op. cit.* 1939, 86.

[8] J. K. Lord, *op. cit.* i, 175–83.

[9] F. A. Smith, *op. cit.* 1031–5; F. Day, *op. cit.* 245 ff.

[10] M. Degerböl, *op. cit.* 133.

[11] N. Lithberg, *Die Steinzeit Gotlands*, Stockholm, 1916, S. 49.

[12] F. Day, *op. cit.* 248. For further facts about the preferences and scruples which affect the consumption of fish, see *The Fisheries Exhibition Literature*, vol. i, London, 1884, pp. 61–2.

Although there is some evidence for the continued development of a line-fishery around the northern and western shores of the British Isles (Appendix III), based mainly on cod, but including also coal-fish, skate, and various rays and accompanied by a certain amount of crab-catching, this does not appear to have assumed the importance it did in some parts of the Scandinavian area. Nevertheless, Petrie[1] observed that the midden of Skara Brae in Orkney 'was thickly studded with fish-bones, chiefly of small fish, apparently the "sillock", or coal-fish' and also 'repeatedly recognized bones of the cod'. Again, the discovery of a stone mortar 'nearly filled with fish-bones, which had apparently been pounded into a mass of minute fragments', reminded him forcibly of the practice of the inhabitants of North Ronaldshay, still in the nineteenth century, of supplementing their meal in time of dearth with pounded fish-bones. The rarity of fish-hooks from coastal sites in Britain contrasts with the position on the Norwegian coast, although it may be noted that Glenluce yielded two of the very few bronze hooks from Britain and that in one of the Dark Age caves of Ballintoy in Antrim an iron fish-hook was associated with 'numerous jaws and vertebrae of cod'.

Turning now to the Scandinavian area (Appendix II), there was a well-established coastal fishery around the shores of Gotland, centring on the cod, which rarely exceeded 30/40 cm. in the Baltic. Numerous fish-hooks made from bone or the enamel of boars' tusks, of the size normally used for codling, indicate the use of lines. To-day the fishing is carried on from boats in 15 to 30 fathoms, mainly in summer and autumn. As a rule it is carried on by men too old for heavier work. During the Stone Age it would seem that women shared in the fishery, since a typical hook was found buried with an adult woman in the cemetery at Västerbjers.[2] A very important point is that the fish caught by the prehistoric Gotlanders were all those of the inshore fishery (*strandfiske*); the herring, characteristic of the modern outshore fishery (*uthafsfiske*),[3] was notably absent.

Sea-fishing in Denmark continued to be concentrated on the southern shores of the Kattegat. To judge from the numbers of bones found on the small number of coastal sites investigated, the fishery was carried on more effectively by communities based in the main upon farming than among the earlier hunter-fishers: from the midden of Sölager dating from Neolithic times quantities of cod, including thirty-five middle jaw-bones, and numerous haddock bones were identified, and cod was well represented at the Bronze Age site of Hasmark in Fyen and at the Iron Age site of Borrebjerg on Sejerö.

Richer still were the fisheries of Bohuslän, Sweden, on the eastern shores of the Skagerrack. Substantial collections of fish-bones have been made from three middens left by hunter-fisher groups dating from the closing stages of the Stone Age. The chief catches were cod, ling, and haddock, together with

[1] G. Petrie, 'Notices of ruins of ancient dwellings at Skara, Bay of Skaill, in the parish of Sandwick, Orkney, recently excavated', *Proc. Soc. Ant. Scot.* vii, 1866–7, 201–19.

[2] M. Stenberger, *Das Grabfeld von Västerbjers auf Gotland*, Stockholm, 1943, Abb. 14. According to information kindly given me by Dr. Stenberger, the sex of the skeleton of the Stone Cist period from Kiaby in Scania, with which three hooks were found (K. Kjellmark, 'Markgravar och boplatsfynd in Kiaby i Skåne', *Fornvännen*, 1940, 18–24), was probably that of a man.

[3] N. Lithberg, *op. cit.* 1916, S. 123.

smaller numbers of ballan wrasse, whiting, and pollack, all of which are bottom feeders, the great majority exclusively so. Analysis of individual fish shows that one of the eight haddock from Rotekärrslid and two of the ninety-seven from Rörvik were larger than the maximum usually met with in these waters and of the ling a large proportion were well grown, a few exceptionally so; on the other hand, only two out of the forty-eight cod from Rörvik were as much as 0·97 m. long, as compared with a present maximum of 1·5 m. It may be assumed that the fish were caught by hook and line from boats during the season when they approached nearest to the shore, much as they are to-day on the same coast. A Bronze Age rock-engraving in the parish of Kville in northern Bohuslän[1] shows two men engaged in this fishery with hook and line from an anchored boat. Whether the Bronze Age fisherman are using hand-lines or short rods has been debated: the 'forearms' are curiously long and straight, but the loop at the end of the forward figure, interpreted by some as the ring at the tip of a rod, is better explained as a correction by the rock-engraver. All the same, fishing-rods were certainly known in Egypt by the twelfth dynasty, being depicted on the tomb of Beni Hasan,[2] and they were evidently in use in Greece during Homeric times.[3]

Along the coasts of Norway and on the islands fringing them on the west and north there are traces of a line-fishery, which, though incomplete, tell a reasonably clear story. Beginning in the Stavanger–Bergen area in the extreme west, possibly as early as the third phase of the Danish Mesolithic stage, the fishery seems to have extended in Neolithic times at least as far north as the Trondhjem area and possibly even to Heligoland. There is no proof to what extent the Stone Age Finnmarkians practised fishing, since no traces of organic material, either animal refuse or bone implements, have survived on their sites and the first certain signs we have in the extreme north date from comparatively late. Many of the Norwegian finds are hard to date in terms of south Scandinavian chronology, since there appears to have been no break in continuity from the Stone Age into historical times. According to Falk,[4] the cod fisheries of the Lofoten Islands were first mentioned in the sagas, but there are indications that they had begun by Stone Cist times, if not by the period of the battle-axes.

As details are given in Appendix II and in fig. 18, it is only necessary to say that the catching was virtually confined to fish accustomed to feed on or near the bottom, and that of these cod was the species chiefly represented on the prehistoric sites. Every year about the middle of February the cod begin to leave the depths of the Atlantic in great shoals and to make for the shallower waters of the Norwegian coast to spawn.[5] The fishery is carried on in late winter or early spring, the season varying on different parts of the coast. According to Hjort, the migrations 'take place with periodical regularity, each of the great fisheries being bound to a certain time of the year, and, in all main features, the one year is but a repetition of the other'. The

[1] A. Fredsjö, 'En fiskescen på en bohuslänsk hällristning', *Göteborgs och Bohusläns Fornminnesförenings Tidskrift*, 1943, 61–71.

[2] P. E. Newberry, *Beni Hasan*, Pt. I, London, 1893, pl. xxix.

[3] *Odyssey*, xii, 251 ff.

[4] Shetelig and Falk, *op. cit.* 306.

[5] J. Hjort, *Hydrographic-Biological Studies of the Norwegian Fisheries*, Christiania, 1896, p. 6.

strictly seasonal character of the cod fishery must have stimulated the development of means for preserving some of the catch for use at other times of the year. Falk has suggested that the cod-drying industry may have started in the Bronze Age, but the distribution of daggers and of stone battle-axes made of south Scandinavian flint suggests that the trade may have begun even earlier. Possibly we may see in the slate knives of the Arctic culture of Norway implements used for slitting and gutting fish.[1] Some of the sites shown on the map (fig. 18) may have been occupied only for the spring fishery, but others, notably Ruskenesset, were visited during the summer, when numbers of wrasses were caught.[2]

The number of bone fish-hooks from the sites emphasizes that the fishing was carried on by the use of lines, and the large size of many of them, approximating to that of the modern cod-hook, reflects the nature of the catch. The majority of the hooks were barbed, but the composite ones from Ruskenesset, Skipshelleren, Rundöyno, and Dalen, and a few one-piece hooks, ranging in time beyond the prehistoric period,[3] had plain, barbless points. Many of the larger hooks were marked by a cross-piece projecting forward from the shank towards the point, a feature which first appeared at Ruskenesset from the time of the Stone Cists and which, especially in Finnmark, persisted throughout prehistoric into historical times.[4] According to an early-nineteenth-century traveller, the Lapps of this province bought their iron hooks from Bergen, but modified them among other ways by fastening 'above the longer arm [i.e. the shank] a heavy piece of tin in a new direction towards the barb'; despite its inefficiency, they adhered 'to this ridiculous custom, because it (was) peculiar to themselves, and the opposite of what (was) practised by the hated Norwegians'.[5] It is interesting in the light of this description to note that the eighteenth-century Finnmark hook illustrated (fig. 19, no. 4) was also weighted in such a way as to depress the head of the shank. Occasionally the large bone hooks were provided with devices for securing the bait, either a single external barb (see p. 66) as in the case of one from Aakvik on Dönna,[6] or by means of grooves or perforations (fig. 19, nos. 1, 2).[7]

The fishing must largely have been carried on from boats, which to judge from representations in the Arctic rock art were skin-covered frame boats of the *Umiak* type. An engraving at Forselv, Skjomen,[8] in Nordland, appears to show a halibut caught on a line from a skin boat. Hand-lines were doubtless generally used in prehistoric times, but a rock-engraving at Kvernevika in the parish of Ytteröy,

[1] O. Nordgaard, 'Traek av fiskeriets utvikling i Norge', *Kgl. norske Videns. Selsk. Skr.* 1908, no. 1, Trondhjem, p. 67.

[2] A. Brinkmann and H. Shetelig, *op. cit.* 26.

[3] e.g. from the Iron Age level at Skipshelleren (J. Bøe, *op. cit.*, pl. IV, fig. 45) or from the site at Kjelmöy, dating from the Viking period (O. Solberg, 'Ein neuer eisenzeitlicher Fund aus Ost-Finmarken in Norwegen', *Prähist. Zeit.* iii, 347–55, Leipzig, 1911, Abb. 4 *c*).

[4] Such hooks occurred, for example, at Aakvik, the Lillehelleren cave near Björnerem on Mien, Haugshulen on Leka, Hegger rock-shelter, Kjelmsö, Nyelv, Ruskenesset, Skipshelleren, and Skjåvika.

[5] Von Buch, *op. cit.* 289–90.

[6] A. Nummedal, 'Bopladsfund paa Halmöy og Dönna', *Det Kgl. Norske Videnskr. Selsk. Skr.* 1919, no. 5, Trondhjem, fig. 16 *a*.

[7] e.g. Kjelmsö (O. Solberg, *op. cit.*, Abb. 4 *c*, *d*).

[8] G. Gjessing, *Arktiske Helleristninger i Nord-Norge*, Oslo, 1932, pl. XI.

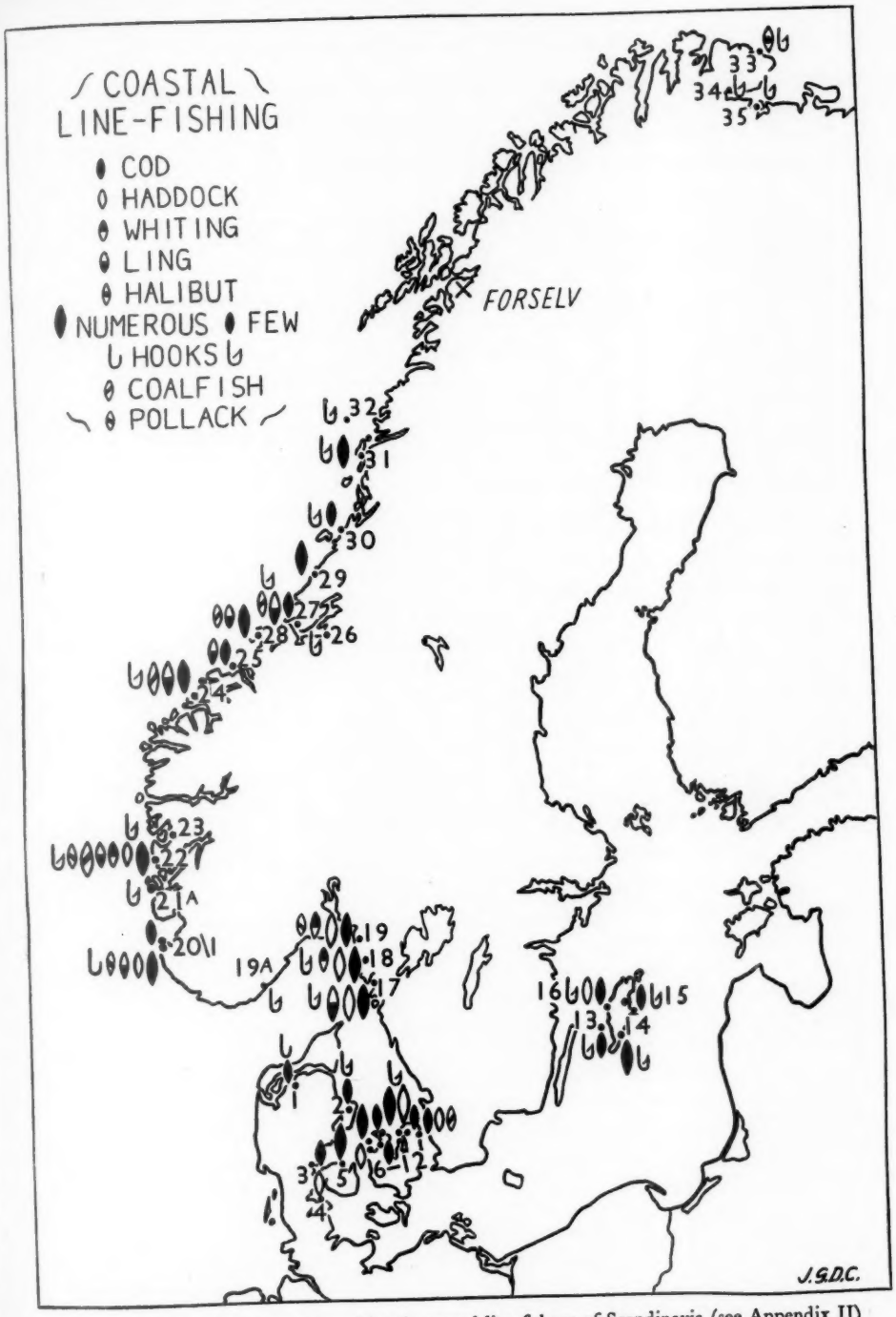

FIG. 18. Map illustrating the prehistoric coastal line-fishery of Scandinavia (see Appendix II)

North Trondelag,[1] showing a dozen halibut arranged in an arc, all but one head upwards, may possibly indicate the use of a long line. Lines with hundreds or even thousands of hooks were, however, a later development, relating to a time when large and sometimes distant markets had to be supplied.

FIG. 19. Hooks from the Norwegian coastal line-fishery (see also figs. 10 and 11) (½)

Nos. 1–3, Kjelmöy (Viking per.); no. 4, Lebesby, Finnmark (late 18th cent.); no. 5, Kristiansund (modern); no. 6, English cod hook (modern); nos. 7–13, Ruskenesset, near Bergen (Stone Cist per.); nos. 14–16, Skjåvika (Late Bronze Age)

According to von Buch[2] nets were not introduced to the Norwegian coast until late in the seventeenth century. Their northward spread was slow; it was only in the middle of the eighteenth century that they reached the province of Nordland and early in the nineteenth century they were still struggling to establish themselves in Finnmark, the high capital outlay and the risk involved in the use of nets of the size needed for this method of fishing no doubt deterring the smaller man from changing over. Conversely, the development of the cod and allied fisheries in modern times into a highly organized industry involved large aggregations of capital and favoured

[1] G. Gjessing, *Nordenfjelske Ristninger og Malinger av den arktiske Gruppe*, Oslo, 1936, pl. LXX.

[2] *Op. cit.* 187–9.

the use of devices beyond the reach of most individual fishermen. Yet, even to-day, the Norwegian and allied line-fisheries are still of great importance, their survival over a period of from four to five millennia being due to the way they are adapted to the feeding-habits of the cod and similar fish, and to the economic potentialities of small communities.

A point to emphasize is that, apart from a few rib-bones from Sölager in Denmark,[1] remains of herring are conspicuously absent from the prehistoric settlements of Europe. The herring fishery is notoriously subject to great local fluctuations, but such can hardly be held to account for the absence of herring-bones from so many regions over so lengthy a period. The absence of a fish, which to-day is caught in larger numbers than any other, from early settlements in the whole region from the Baltic to[2] the west coast of Norway and northern Britain, and extending from the Stone Age to the Early Iron Age, can only mean that the fishery was not developed during the prehistoric period. The single occurrence at Sölager, which incidentally shows that some herrings at least visited Danish waters in Neolithic times, could easily have resulted from the pursuit of some other fishery.[3] The origins of the herring fisheries, which played so important a role in medieval Europe, are lost in the obscurity of the dark ages, but such were already flourishing around the shores of Britain before the time of Domesday;[4] the Sound fishery was already productive early in the twelfth century A.D.;[5] and herrings were mentioned more than once in Norse sagas dating from the tenth century.[6] The failure to develop the fishery in prehistoric times can hardly be ascribed to deficiencies in boats, since at the spawning-season the fish come in fairly close, and since in recent times such primitive craft as curraghs have been much employed for catching herring around the shores of Ireland.[7] More likely, as with the case of cod nets, manufacture of the drift nets required for herring involved more labour than could be justified by the needs of small communities of farmer-fishers.

Although the evidence for fishing in early Europe depends more than usually on accidents of survival, owing to the perishable nature of the remains of fish and of the gear used in catching them, the sequence of development which has emerged from our survey is reasonably consistent:

i. In Upper Palaeolithic times fishing was apparently confined to inland waters and the sea margins. Already there was a distinction between seasonal fisheries based on the upstream migrations of salmon, which yielded a harvest capable of being stored, and the intermittent catching of fish present all the year round. Line-fishing with gorges, spearing, and probably clubbing were all in use.

[1] M. Degerböl, *op. cit.* 119.

[2] N. Lithberg, *Gotlands Stenålder*, Stockholm, 1914, p. 130.

[3] e.g. herring are sometimes taken in basket traps in the Firth of Forth. See J. M. Mitchell, *The Herring. Its Natural History and National Importance*, Edinburgh, 1864, p. 95.

[4] e.g. references in Anglo-Saxon documents dating respectively from *c.* A.D. 1038 and 1061–5. A. J. Robertson, *Anglo-Saxon Charters*, Cambridge, 1939, Documents XCI and CXVII. For earlier references see J. M. Mitchell, *op. cit.* 131.

[5] S. Bolin, *op. cit.* 482–3.

[6] J. M. Mitchell, *op. cit.* 131–2.

[7] *Ibid.* 100.

ii. The Mesolithic period was marked by technical improvements (seine net, weel, hook) and above all by the boat. A well-developed pike fishery was carried on in the inland waters of the Northern Plain, and a feature of the final stages was the beginning of a coastal line-fishery from boats.

iii. The advent of farming in Neolithic times and its gradual development during the Bronze and Early Iron Ages, by increasing the density of population, created a greater demand for the products of fishing, which was carried on all the more effectively thanks to improved technology (barbed hooks, metal fish-spears; fired clay and lead net-sinkers) and more highly integrated social organization (weirs). The stimulus was especially marked in coastal fishing, which was carried on by lines from boats for cod, ling, haddock, and other bottom feeders.

iv. The full possibilities of sea-fishing, on the other hand, were not realized until historical times. The rise of the herring fishery and the intensification and spread of the cod fishery were associated above all with the development of an urban economy.

Appendix I (fig. 9)

Schedule of Fish-remains from Maglemose Sites

	Fish-remains	*Fishing-gear*
A. *Seasonal* (*summer*) *settlements*		
1. Duvensee, near Lübeck, N. Germany[1]	Abundant pike; also bream	3 leister prongs
2. Holmegaard, Zealand, Denmark[2]	Pike (incl. 3 upper and 5 left lower jaw-bones); sheat-fish (a few bones)	51 leister prongs
3. Lundby, Zealand[3]	Pike (several bones)	Leister prongs
4. Mullerup, Zealand[4]	Pike (incl. 9 right lower jaw-bones); other bones unidentifiable	50 leister prongs; 4 hooks
5. Ögaarde, Zealand[5]	Pike (incl. 8 right lower jaw-bones); sheat-fish (vertebrae)	1 hook (broken)
6. Sværdborg, Zealand[6]	Pike (incl. 80 upper and 64 left lower jaw-bones)	274 leister prongs; 11 hooks
7. Vinde-Helsinge, Zealand[7]	Pike (vertebrae)	
B. *Old lake-bed deposits*		
8. Calbe a.d. Milde, Altmark, Germany[8]	Abundant fish-bones (not identified)	Numerous leister prongs

[1] G. Schwantes, *Geschichte Schleswig-Holsteins. Bd. I. Vorgeschichte*, Neumünster, 1939, S. 101–3. In response to a letter, Prof. Schwantes kindly had the bones identified.

[2] H. C. Broholm, 'Nouvelles trouvailles du plus ancien âge de la pierre. Les trouvailles de Holmegaard et de Sværdborg', *Mém. de la Soc. Roy. des Ant. du Nord*, 1926–31, 1–128, Copenhagen, p. 29.

[3] M. Degerböl, *op. cit.* 120.

[4] G. F. L. Sarauw, *op. cit.* 194.

[5] M. Degerböl in T. Mathiassen, *op. cit.* 1943, 192.

[6] Friis Johansen, *op. cit.* 128.

[7] Degerböl in T. Mathiassen, *op. cit.* 1943, 169.

[8] *Z. für Ethnologie*, 1886, 125–9.

Appendix I (fig. 9) (*cont.*)

	Fish-remains	*Fishing-gear*
B. *Old lake-bed deposits* (cont).		
9. Esperöds Mosse, Tränas, Scania, Sweden[1]	Pike skeleton	Leister prong impaling skeleton
10. Havel Lakes, Brandenburg, Germany[2]	Numerous jaws of large pike; bones of wels	Numerous leister prongs and fish-hooks
11. Kunda, Esthonia[3]	Numerous pike; also perch and tench	155 leister prongs, including 2 impaling pike
12. Skipsee, Holderness, England[4]	Pike fins	1 leister prong

[1] *Ymer*, 1917, 453.
[2] R. Stimming, *op. cit.* 114–16, 121.
[3] R. Indreko, *op. cit.* 1934, 241 and 283, Abb. 6; also P. W. Thompson, *op. cit.* 239.
[4] H. and M. E. Godwin, 'British Maglemose Harpoon Sites', *Antiquity*, 1933, 39.

Appendix II

Coastal Fishing in Prehistoric Scandinavia

Note: nos. refer to map (fig. 18)

Sites	*Age*	*Catch*	*Fishing-gear*
Denmark			
1. Ertebölle, Jutland[1]	Mesolithic III	Cod (a few jaw-bones); flounders, gar-pike, eel, pike, etc.	4 bone hooks (unbarbed)
2. Kolind, Jutland[2]	(*a*) Meso. III (*b*) Neolithic	Cod (few); dog-fish Cod, flounder	1 bone hook (barbed)
3. Kolding Fjord, Jutland[3]	Meso. III	Cod (upper jaw-bone)	..
4. Bundsö, Als[4]	Neolithic	Haddock (6 clavicle bones)	..
5. Hasmark, Fyen[5]	Bronze Age	Cod (numerous, including 18 right and 12 left lower jaw-bones); flounder, gar-pike	..
6. Borrebjerg, Sejero[6]	Iron Age	Cod (numerous and large)	..
7. Nexelö, Zealand[7]	Meso. III	Haddock (6 clavicle bones); flounders	..
8. Vejleby, Zealand[8]	Meso. III	Cod (numerous bones of small fish); mackerel, flounder, eel	..
9. Klintesö, Zealand[9]	Neolithic	Cod (few); flounder, gar-pike, dog-fish, and perch	..
10. Sölager, Zealand[10]	Neolithic	Cod (numerous, including 35 middle jaw-bones); haddock (numerous vertebrae); and flounder, herring, gar-pike, eel, and pike	1 bone hook (barbed)
11. Kassemose, Zealand[11]	Meso. III	Cod (few); flounder	..

[1] Madsen *et al.*, *op. cit.* 81; M. Degerböl, *op. cit.* 1945, 133.
[2] M. Degerböl, *op. cit.* 1945, 114, 136, 147; T. Mathiassen *et al.*, *op. cit.* 1942, 123–4.
[3] M. Degerböl, *op. cit.* 1945, 136.
[4] *Ibid.* 137.
[5] *Ibid.* 134, 136, 146.
[6] *Ibid.* 136.
[7] *Ibid.* 137, 146.
[8] *Ibid.* 133, 135, 146, 151.
[9] *Ibid.* 114, 134, 136, 146, 148.
[10] *Ibid.* 119, 120, 133, 134, 136, 137, 146, 151; J. C. Becker, *op. cit.* 1939, 261.
[11] *Ibid.* 135, 146.

APPENDIX II (*cont.*)

Sites	*Age*	*Catch*	*Fishing-gear*
12. Nivaa, Zealand[1]	Meso. III	Haddock (frag. collar-bone); cod (3 frag. lower jaw-bones); coal-fish, flounder, gar-pike, pike	..
Note: In addition, bones of unidentified Gadoids have been recorded from Bloksbjerg, Havelse, Meilgaard, and Fannerup (Meso. III); Faarevejle and Langö (Neolithic); and Bulbjerg (Bronze Age).[2] Also, a large bone hook (cf. fig. 19, no. 7, but lacking the step in the inner profile of the shank) was dredged off Drägor, Amager Island, nr. Copenhagen, some four kilometres from land (Nat. Mus. A. 23142).			
13. Stora Förvar, Stora Karlsö, nr. Gotland[3]	Neolithic	Cod, salmon, pike, roach	8 hooks
14. Hemmor, Gotland[4]	Neolithic	Cod (5,343 bones), flounder (39 bones), turbot (51 bones), pike (470 bones), perch (186 bones), eel (230 bones), etc.	13 hooks (8 broken)
15. Västerbjers, Gotland[5]	Neolithic	Cod	3 hooks (1 broken)
16. Visby, Gotland[6]	Neolithic	Cod, haddock[7](?)	26 hooks (1 unfinished)
16*a*. Gullrum, Gotland[8]	Neolithic	..	16 hooks
16*b*. Fridtorp, Gotland[9]	Neolithic	..	2 hooks
17. Rotekärrslid, Bohuslän[10]	Meso. III/Neolithic?	Cod (at least 13 indiv.), haddock (8 ditto), ling (26), ballan wrasse (2)	8 hooks (broken or unfinished)
18. Rorvik, Bohuslän[11]	Neolithic	Cod (at least 48 indiv.), haddock (97 ditto), whiting (2), ballan wrasse (3)	8 hooks (4 unfinished)
19. Anneröd, Bohuslän[12]	Neolithic	Cod and haddock (numerous); also whiting, pollack, wrasse, eel, flounder, and tunny	1 hook
NORWAY			
19*a*. Jordtveit, Eide, Aust Agder[13]	?	..	Large barbed hook
20. Viste, nr. Stavanger[14] Note: *c.* 8 cubic metres excavated	Meso. III/Neolithic?	Cod (at least 33 indiv.), haddock (2), ling (1), pollack (1), torsk (1), conger (4), stripped wrasse (1), ballan wrasse (2)	10 hooks (7 broken)
21. Kvernevik, Randeberg, nr. Stavanger[15]	Meso. III?	Cod	..

[1] *Ibid.* 120, 134, 136, 137, 142, 146.

[2] *Ibid.* 137.

[3] H. Rydh, *Stora Karlsö under Forntiden*, Stockholm, 1931, 27; B. Schnittger and H. Rydh, *Grottan stora Förvar på Stora Karlsö*, Stockholm, 1940, pl. x.

[4] N. Lithberg, *op. cit.* 1916, 49; J. Nihlén, *Gotlands Stenåldersboplatser*, Stockholm, 1927, 92.

[5] M. Stenberger, *op. cit.* 1943, 86–7, 107.

[6] N. Lithberg, *op. cit.* 1916, 53 and 127; E. B. Lundberg, 'Undersökningarna på Visbyboplatsen 1936–7', *Fornvännen*, Bd. xxxvii, 1942, 161–74, p. 169.

[7] This determination is queried by M. Degerböl, 1945.

[8] N. Lithberg, *op. cit.* 1916, 46.

[9] J. Nihlén, *op. cit.* 84 and fig. 60.

[10] P. Henrici in J. Alin, 'En bohuslänsk Kökkenmödding på Rotekärrslid, Dragsmark', *Göteborgs och Bohusläns fornminnesforenings Tidskr.* 1935, 1–42, pp. 14–17 and 41–2.

[11] S. Janson, 'En boplats från yngre stenåldern vid Rörvik i Kville socken', *Göteborgs och Boh. forn. Tidskr.* 1936, 74–6; P. Henrici, 'Benfynd från boplatsen vid Rörvik', *ibid.* 82–91.

[12] O. Frödin, 'En svensk kjökkenmödding', *Ymer*, 1906, 17–35.

[13] G. Gjessing, *Norges Steinalder*, Oslo, 1945, p. 196 and fig. 50, 1.

[14] A. W. Brögger, *op. cit.* 1908.

[15] T. Helliesen, *Stavanger museums aarshefte*, 1900.

APPENDIX II (*cont.*)

Sites	*Age*	*Catch*	*Fishing-gear*
21*a*. Rumdöyno, Bömmel Hordeland[1]	?	..	..
22. Ruskenesset, nr. Bergen[2]	Neolithic	Cod (at least 23 indiv.), haddock, whiting (1 ?), ling (4), pollack (8), poor cod (7), coal-fish (17), piked dog-fish (2), ballan wrasse (16), stripped wrasse (3), connor (7). *Note*: edible crab very frequent.	Numerous hooks
23. Skipshelleren, nr. Bergen[3]	Neolithic	Report not yet available	Bone hooks (composite); 111 hooks
24. Caves nr. Björnerem, Mien[4]	Stone/Iron	Cod (large quantities); ling and coal-fish (numerous). Crab (1 piece of claw)	1 antler hook
25. Valseshulen (cave), nr. Kristiansund[5]	Neolithic?	Cod, ling	..
26. Hegge (rock shelter) Skatval, nr. Trondhjem[6]	?	..	3 large bone hooks
27. Dalen, Skjörn Fjord, nr. Trondhjem[7]	Neolithic	Cod, ling, coal-fish	3 hooks (1 composite)
28. Hestneshulen, Dolm, Hitteren[8]	Iron Age	Cod (quantity), ling, coal-fish	..
29. Caves on Halmöy, Flatanger[9]	Stone/Iron	Cod	..
30. Haugshulen, Leka[10]	Iron Age (prob. 5th cent. A.D.)	Cod	1 bone hook
31. Aakvik cave, Donna, Helgeland[11]	Neolithic	Cod (predominant among fish)	4 bone hooks (broken)
32. Kirkhelleren, Traena, Helgeland[12]	Neolithic/Iron	..	Numerous bone hooks
33. Skjåvika, Finnmark[13]	Formally Neolithic (prob. L.B.A. date)	Fish included halibut	Several bone hooks

[1] G. Gjessing, *op. cit.* 1945, 135, 198.

[2] J. Böe, *op. cit.* 1934.

[3] A. Brinkmann and H. Shetelig, *op. cit.* 1920.

[4] A. Nummedal, 'Björneremsfundet forhistoriske hulefund fra Mien i Romsdalen', *Det Kgl. Norske Vidensk. Selsk. Skr.* 1912, nr. 12, Trondhjem.

[5] A. Nummedal, 'Dalehelleren og Valseshulen. To stenalders bopladser ved Kristiansund', *Det Kgl. Norske Vidensk. Selsk. Skr.* 1910, nr. 11.

[6] B. Hougen, 'En stenalders boplads på Hegge i Skatval', *Det Kgl. Norske Vidensk. Selsk. Skr.* 1929, nr. 7.

[7] K. Rygh, *Det Kgl. Norske Vidensk. Selsk. Skr.* 1911, nr. 5.

[8] T. Petersen, 'Hestneshulen. Beretning om undersökelsen av en forhistorisk boplads paa Hitteren', *Det Kgl. Norske Vidensk. Selsk. Skr.* 1910, nr. 2.

[9] A. Nummedal, 'Bopladsfund paa Halmöy og Dönna', *Det Kgl. Norske Vidensk. Selsk. Skr.* 1919, nr. 5.

[10] T. Petersen, 'Haugshulen paa Leka. Et nyt hulefund fra ældre jernalder', *Det Kgl. Norske Vidensk. Selsk. Skr.* 1916, nr. 4.

[11] A. Nummedal, *op. cit.* 1919.

[12] G. Gjessing, *op. cit.* 1945, fig. 31; also, *Træn-Funnene*, Inst. f. Sammenl. Kulturforskn. Ser. B, xli, pl. xxix, Oslo, 1943.

[13] G. Gjessing, 'Der Küstenwohnplatz in Skjåvika. Ein neuer Fund aus der jüngeren Steinzeit der Provinz Finmarken', *Acta Archaeologica*, ix, 1938, 177–204.

APPENDIX II (*cont.*)

Sites	*Age*	*Catch*	*Fishing-gear*
34. Nyelv, Nesseby, Finnmark[1]	Formally Neolithic	..	Hooks
35. Kjelmsö, Finnmark[2]	Iron Age (Viking)	..	Numerous bone hooks

Note: In addition, large bone hooks may be noted from Selnes, Balsfjord, Troms (Tromsö Mus. 3541) and from Vadsö, Finnmark (Tromsö Mus. 187).

[1] G. Gjessing, *op. cit.* 1945, 150 ff., fig. 49; also, *Yngre Steinalder i Nord-Norge*, Inst. f. Sammenl. Kulturforskn. Ser. B, xxxix, Oslo, 1942.
[2] O. Solberg, *op. cit.*, Abb. 4, *a–d*.

APPENDIX III

Coastal Fishing in Prehistoric Britain

Site	*Age*	*Catch*
IRELAND		
Ballintoy Caves, Antrim[1]	Iron Age	Cod (numerous); conger and gurnet. Iron fish-hook
Carrowmore Point, Clare[2]	Undated	Skate
Cushendun, Antrim[3]	Mesolithic (Larnian)	Cod
Portbraddon Cave, Antrim[4]	Iron Age	Cod (prob.), gurnet and rudd
Whitepark Bay (Sandhills), Antrim[5]	Iron Age	Cod and razor-fish
SCOTLAND		
Caisteal-nan-Gillean, Oronsay[6]	Mesolithic (Obanian)	Skate, piked dog-fish, grey mullet, wrasse
Cnoc Sligeach, Oronsay[7]	Mesolithic (Obanian)	Haddock, conger, tope, angel-fish, thornback ray, spiny dog-fish, wrasse, black sea-bream, sea-bream
Covesea, Moray[8]	Late Bronze Age	Gadoid (sp.?). Bone netting needle
Druimvargie, Oban[9]	Mesolithic (Obanian)	A few fish-bones; crab claws
Dun an Iardhard, nr. Dunvegan[10]	Iron Age (broch)	Ling
Eday, Orkney[11]	Iron Age	Coal-fish
Galston, Lewis[12]	Iron Age	Cod (numerous); ling, pollack, coal-fish, and crab
Glenluce, Wigtown[13]	Late Bronze Age (?)	Two bronze fish-hooks
Gullane, East Lothian[14]	Early Bronze Age (Beaker)	Crab claws
Jarlshof, Shetland[15]	Late Bronze Age	Cod; a few ling and wrasse
Kettleburn, Caithness[16]	Iron Age (broch)	Fish (sp.?)
Kintradwell, nr. Brora[17]	Iron Age (broch)	Cod, haddock, dog-fish

[1] *Irish Nat. J.* 1936, 32–7; 1938, 107, 109, 111.
[2] *P.R.I.A.*, 3rd ser., vi (1901), 353.
[3] H. J. Movius, *op. cit.* 1943, 128.
[4] *Ulster J. of Arch.* 1943, 44.
[5] *P.R.I.A.*, 3rd ser., i, no. 5 (1891), 617; also *J.R.S.A.I.* lxvi (1936), 161.
[6] *P.S.A.S.* xxxii, 310–11.
[7] *P.S.A.S.* xlviii.
[8] *P.S.A.S.* lxv, 208.
[9] *P.S.A.S.* xxxii, 299.
[10] *P.S.A.S.* xlix, 70.
[11] *P.S.A.S.* lxxi, 152–3.
[12] *Ibid.* 359.
[13] J. Anderson, *Scotland in Pagan Times*, ii, 202, fig. 219.
[14] *P.S.A.S.* xlii, 309.
[15] *P.S.A.S.* lxvii, 135–6 and lxviii, 318.
[16] J. Anderson, *op. cit.* i, 215.
[17] *Ibid.* 221.

APPENDIX III (*cont.*)

Site	*Age*	*Catch*
MacArthur's Cave, Oban[1]	Mesolithic (Obanian)	Numerous fish (sp.?). Crab claws plentiful
Midhowe (cairn nr.), Rousay[2]	Neolithic	Sea-bream (2 vertebrae)
North Berwick, E. Lothian[3]	Early Bronze Age (Beaker)	Fish (sp.?); crab claws
Risga, Loch Sunart, Argyll[4]	Mesolithic (Obanian)	Haddock, conger-eel, skate, grey mullet, sea-bream, black sea-bream, wrasse, angel-fish, tope, wray, spiny dog-fish, crab, and fiddler-crab.
Skara Brae, Orkney[5]	Neolithic	Cod, coal-fish; crab claws
WALES		
Dyserth, Flint[6]	(*a*) Neolithic (*b*) Early Bronze Age	Thornback ray Cod

[1] *P.S.A.S.* xxix, 227–8.
[2] *P.S.A.S.* lxviii, 349.
[3] *P.S.A.S.* xlii, 253–94.
[4] Information from Mr. A. D. Lacaille.
[5] *P.S.A.S.* vii, 211, 213; also V. G. Childe, *op. cit.* 1931, 96.
[6] *Arch. Cambr.* 1915, 78–9.

REVIEWS

Oudheidkundig Bodemonderzoek in Nederland. Gedenkboek A. E. VAN GIFFEN. 9½×6½. Pp. 608, with 79 plates and 26 figures in the text. J. A. Boom & Zoon, Meppel, 1947.

The publication of this volume commemorates the silver jubilee of the Biological-Archaeological Institute at Groningen and pays tribute to the life's work of our Honorary Fellow, Dr. A. E. van Giffen, who has led the Institute since its foundation. The magnitude of Dr. van Giffen's achievement is catalogued in the list of excavations and in the bibliography printed at the end of the volume, but is also reflected in each of the twenty-eight contributions which compose the book.

To notice each of these would be impracticable, but attention may first be drawn to the substantial article by Dr. A. Bohmers, which describes the flint industries of Holland dating from Late Glacial and earliest Post-glacial times: Bohmers extends the geographical range of the Hamburgian to the Zuider Zee and recognizes in the Tjongerian a younger industry reminiscent of the Gravettian. J. C. Kat-Van Hulten then divides the pottery from the hunsbeds of north Holland into an earlier Drouwen I and a later Havelt group, the latter itself falling into two successive stages, Veluwe and Drouwen II. It is appropriate that special articles should be devoted to round barrows and settlement mounds (*terpen*), since, although an omniverous excavator, van Giffen has dug more sites of these types than of any others. The Roman period is covered by three articles, one by W. Glasbergen concerned with stages in the occupation as a whole, the others with the settlement of specific areas.

During recent years in particular, Dr. van Giffen, as head of the Rijksdienst voor det Oudheidkundig Bodemonderzoek, has been active in the excavation of medieval churches, and one of the most important articles is devoted to summarizing the results. A shorter article describes work carried out on castles and one by Dr. W. C. Braat, illustrated by several half-tone plates and some line-drawings, deals with medieval pottery. A brief paper on the application of air-photography to archaeology laments the small scale (1:10,000, 1:20,000) of the available cover, a complaint justified by some of the illustrations. The last article, and one of the longest, is by van Giffen himself, who treats us to a far-ranging but well-documented survey of the changing perspectives of prehistoric research in his own country, an essay of special value to anyone interested in the main currents of prehistoric research. The volume as a whole is a fitting tribute to the work of an outstandingly active field archaeologist. It is well illustrated and fully indexed. The text is in Dutch throughout.

J. G. D. C.

Metallteknik under Förhistorisk tid. Af ANDREAS OLDEBERG. 12¼×9¼. Del I, pp. 243; Del II, pp. 373, Lund, 1942–3.

This is a large, indeed sumptuous, work devoted to non-ferrous metallurgy and the arts of metal-working in prehistoric times. It is a pleasure to review a book of such high quality, now unfortunately all too rare; the printing and illustrations are of very high standard, an excellent feature being the large size and clarity of the numerous illustrations accompanying the text. The two volumes contain some 616 pages with 684 figures and various plates. In volume i the first two chapters are devoted to a very complete discussion of copper, tin, lead, silver, gold, etc., and of the various bronze alloys, some much used, while others, such as the copper-zinc alloy, are decidedly rare before Roman times. The volume ends with a most valuable series of tabulated analyses of no less than 747 metal specimens. Volume ii is largely devoted to the actual technique of manipulation of the various non-ferrous metals, tools of the metal-worker, the various

modes of casting, and the examination of alloys by means of metallography. To both volumes there is an adequate German summary.

We have here a work which prehistoric archaeologists and metallurgists who are interested in the history of early metals cannot afford to be without; perhaps the greatest value of Dr. Oldeberg's work lies in the very large amount of actual technical data related to prehistoric metal-working which will enable archaeologists to form their own conclusions upon a sound basis of scientific fact. Volume ii, in particular, in which the tools and technical arts of the coppersmith are most adequately dealt with, throws a flood of light upon an aspect of the study of early metals which, up to the present, has received all too little attention. Of metallurgical development up to the stage of true, or intentional, bronze the author would appear to accept Witter's sequence, which, from the technological aspect, may well be true. Again, many will now agree that native copper was the first to be collected and used for the manufacture of small objects, but whether any of the earliest European flat axes belong to this stage is an interesting, though as yet undecided, point which the analyses and data presented may help to solve. Dr. Oldeberg's discussion of casting and moulding methods will be of much value—the technique of the foundry is well known to the practical engineer, but the finer points of moulding, venting, pouring, etc., must be more or less a closed book to the archaeologist; the author obviously brings knowledge to bear from both sides upon the many problems which the prehistoric smith and founder has left for us to solve.

In such a thorough and well-documented work there is little to criticize, but to mention a small point, one could wish for more diagrams such as fig. 296, and also figs. 376–8, which give a reconstruction illustrating the wax-casting process for bronze bowls; such working diagrams render it much easier to follow the technical description in the text, and a series of such drawings to cover the casting methods of the more complex tools and weapons would have considerable value. Also, now that it has become possible to obtain actual percentage figures from spectrographic analyses, it would have considerably increased the already high value of the table of analyses contained in volume i had it been possible, for a greater number of the analyses, to give the actual percentage value for the various impurities contained in the specimens. But this, no doubt, was a matter outside Dr. Oldeberg's control.

H. H. Coghlan

Attic Red-Figured Vases: A Survey. By Gisela M. A. Richter. 9¼×6. Pp. xxvii+221; figs. 125. New Haven: Yale University Press, 1946. 14*s.*

Attic red-figure, in its first fifty years or so, produced the finest flowers of all Greek vase-painting, and for long after that is full of beauty and interest. Moreover, largely through Beazley's work, a high proportion of its individual painters has been identified, and their inter-relations to some degree established, with a consequent clearer understanding of the development of the style. It is strange, therefore, that there has been hitherto no general history of the style, such as is now provided by Miss Richter. The author's work on sculpture, especially her *Kouroi* and *Attic Grave Reliefs*, give us great expectations from her, and her catalogue of the red-figure vases in New York, on which this volume is based, was a fine and scholarly performance. The book, however, by her own high standards, is something of a disappointment, though unquestionably very useful. It is divided into an Introduction: the general position of vase-painting at this period, subjects, ornament, shapes, inscriptions, chronology, and technique; and six chapters: Early Style, Ripe Archaic Style, Early Free Style, Free Style, Late Fifth-Century Style, and the Fourth Century. Each chapter has a general introduction, followed by an account of the individual painters who flourished at that time. All this is well; but the book suffers, I think, from too close an adherence to Beazley's great list of red-figure vase-painters and their works. One may on occasion wish to know that, for instance, fifty-nine vases have been attributed to Onesimos,

but it is information we should properly seek in Beazley and not in a general history. Similarly, Miss Richter seems to hate to leave out a name, and there are many lists of minor painters with scarcely the briefest characterization of their style and little attempt to relate them to one another. On pp. 72 f., for instance, it would have been helpful to explain that the Gallatin and Diogenes painters flourished early in the period, and that the Syleus painter issued from their group but in later life developed a rather academic style, related to that of the Copenhagen and Syriskos painters, which looks forward to the next period; while reference to the Tyszkiewicz and Troilos painters could reasonably have been omitted. There is disappointment too in the illustrations. Miss Richter has deliberately concentrated on vases in New York, and on details rather than general views. Neither practice is basically unreasonable—figs. 73 and 90 are admirable details of noble New York vases—but both can become faults. All too often the details show a single figure cut off at the knees, sometimes with arms and attributes also lopped. The nobility of the Kleophrades painter's warrior hardly survives this treatment in fig. 47, and figs. 60 and 76 are excruciating. Who, too, would guess from fig. 48 that the Berlin painter was one of the greatest of all vase-painters? This artist's special strength lies in beauty of contour, which can only be appreciated in whole figures, just as the Brygos painter's pre-eminence is in his tondos, and more especially in the many-figured compositions of his cup exteriors, and he shows but tamely in the lekythos figure of fig. 61. This on the debit side; on the credit, the introduction, especially that part devoted to technique, is very interesting, as are in general the introductions to the individual chapters, though the author is too inclined to view the whole development of Attic red-figure as a simple evolution from formalism to naturalism; at least I do not see it so. But like all Miss Richter's work, one cannot read it without finding constant matter for interest and enjoyment.

MARTIN ROBERTSON

A Hoard of Roman folles *from Diocletian's reform* (A.D. 296) *to Constantine Caesar, found at Fyfield, Berks.* By E. T. LEEDS, M.A., F.S.A. $9\frac{3}{4} \times 7\frac{1}{4}$. Pp. 63. Oxford: printed for the Visitors and sold at the Ashmolean Museum, 1946. 15*s.*

Early in 1944 the finding of a large hoard of *folles* of the age of Diocletian at Fyfield, Berks., was reported in Oxford: the coins were taken to the Ashmolean Museum for study, and the present paper of Mr. E. T. Leeds, at that time Keeper, preserves a faithful record for posterity. The total number of coins was 2,106; Diocletian, Maximian, and their Caesars, Constantius and Galerius, were all largely represented. Other rulers, down to Constantine and Maximin II, had comparatively few coins to their names. Of the mints, Treveri was an easy first, with Lugdunum second and Ticinum third. The hoard seems to have been buried late in 307.

This is one of a series of large hoards of *folles* of the Tetrarchy that have been recorded both in our island and abroad. It seems, in fact, to be in such great hoards that the *follis* survived. Mr. Leeds's careful and faithful study contributes yet another stone to the future builder of the catalogue of the whole coinage of the period. The mere record of coins under emperors and mints, with special attention called to unpublished pieces, is in itself valuable. But Mr. Leeds has gone farther, has grappled with such difficult questions as those of the *folles* without mint-mark, the reduction of the *follis* in weight, and the significance of the *follis*, and has done something to advance each one.

H. M.

PERIODICAL LITERATURE

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TRANS. C. & W. A. A. SOC., vol. 46:—Author and subject index to the *Transactions* of the Cumberland and Westmorland Antiquarian and Archaeological Society, New Series, vols. 1–45, compiled by C. Spence and J. E. Spence; A prehistoric settlement on Walney Island, part 4, by M. Cross; Furness travelling and postal arrangements in the 18th and 19th centuries, by J. Melville and J. L. Hobbs; Cumberland and 'The Forty-Five'—some letters, by Major J. P. Dalton; Notes on Dr. Robert Harrington of Carlisle, by C. R. Hudleston; The Roman site at Burrow in Lonsdale, by Eric Birley; The Barwises of Lowsay, by Rev. F. B. Swift; The muniments of the Diocese of Carlisle, by Rev. C. M. Lowther Bouch; Bishop Nicholson's diary (1703–4) part 1, by T. Gray; Brough-under-Stainmore: The castle and the church, by W. Douglas Simpson.

JOURN. DERBY ARCH. & N. H. SOC., No. 66 (1946):—Excavation of pagan burial mounds: Ingleby, Derbyshire, by C. Clarke and W. Fraser; The beginning of a Turnpike Trust, by H. S. Twells; Stanton-by-Bridge: some early incumbents, 1314–1682, by D. Hillyard; The Boott and Haden families and the founding of Lowell, by J. L. Hobbs.

TRANS. DEVONSHIRE ASS., vol. 78:—Ancient Devon parish churches within a ten-mile radius of Newton Abbot, by C. F. Cornelius; The old Heytor granite railway, by E. Amery Adams; Stray notes on the Teign Valley, by R. H. Worth; A neolithic celt from near Moretonhampstead, by Col. R. Pickard; The long bridge of Barnstaple, pt. ii, by B. W. Oliver; Early Methodism in Tavistock, by C. E. Hicks; Plymouth chantries, by C. W. Bracken; Childe's tomb, by H. P. R. Finberg; Dartmoor blowing-houses, by R. H. Worth; The stone rows of Dartmoor, part 1, by R. H. Worth.

ESSEX REV., vol. 56, no. 223:—The early Essex patents for inventions, by A. R. J. Ramsey; Bishops' Clacton: two parks and a 'palace', by K. Walker; The parish church of St. Mary, Henham, by F. W. Steer; Colchester Museum, 1846–1946 (*cont.*), by E. J. Rudsdale; The Chelmsford plays of the sixteenth century, by the late Dr. W. A. Mepham; Glebe farming at Stisted Hall in the 1780s, by G. E. Fussell.

Vol. 56, no. 224:—A corporal of the Grenadier Company, 44th Regiment, 1751, by G. O. Rickword; The Chelmsford plays of the sixteenth century, by the late Dr. W. A. Mepham; Some roads on the Essex–Hertfordshire border, by F. H. Maud; Colchester's lost public cage, by J. S. Appleby; Colchester Museum, 1846–1946 (*concl.*), by E. J. Rudsdale; The Smiths of Co. Essex and the ancient northern family of Lumley, by L. G. H. Horton-Smith; Some Essex wills, by Rev. F. W. Austen; Vange notes and memories, by Mrs. J. K. Payne; Some notes on Shroud brasses in Essex, by D. J. Cockell; A Colchester innkeeper: his vicissitudes and his descendants, by G. O. Rickword; Seal of Abbot Simon de Blyton of St. John's, Colchester.

TRANS. GREENWICH & LEWISHAM ANT. SOC., vol. 4, no. 21:—Church plate in the Hundred of Blackheath, by Moir Carnegie; The Manor of Lewisham and its Wealden 'dens', by Gordon Ward; Blackheath and the invasion of England, by B. Tunstall; Treasure trove at Lewisham, December 1937, by J. W. Kirby.

TRANS. HALIFAX ANT. SOC., 1946:—John Howarth, a noted 18th century lawyer, by J. H. Priestley; Dr. Favour's 'Northerne Poems', by T. W. Hanson; Ripponden Wood, by J. H. Priestley; Scout Hall, by W. B. Trigg; Peel House mills, by H. W. Harwood.

PROC. HANTS F.C. & ARCH. SOC., vol. 16, part 3:—The Roman road from Winchester to Bitterne, by O. G. S. Crawford; Hampshire palaeoliths and the clay-with-flints, by G. W. Willis; Field systems and enclosures in Hampshire, by W. E. Tate; Charles II's Garrison Hospital, Portsmouth, by Capt.

C. G. T. Dean; Scratch dials at All Saints' Church, Martin, by E. H. L. Poole; Ironworks, Bursledon, by C. Fred Fox; Some Hampshire property of the nunnery of St. Mary Clerkenwell in the 12th century, by W. O. Hassall.

TRANS. E. HERTS. ARCH. SOC., vol. 12, part 1:—Sidelights on brasses in Hertfordshire churches, XXIV, Clothall, by H. C. Andrews; A handlist of Hertfordshire Enclosure Acts and Awards, by W. E. Tate; The Hill and Astry families of Langley and Hitchin, by H. C. Andrews; No. 16 Bull Plain, Hertford, Herts., by Major E. J. T. Lutyens and H. C. Andrews; Was this Jack o' Legs?, by A. W. Brunt; Slid-groat, by H. C. Andrews.

TRANS. HUNTER ARCH. SOC., vol. 6, part 3:—Hill-forts in South-west Yorkshire, by F. L. Preston; 'The Roman Ridge', hill top, Kimberworth, near Rotherham, by Dorothy Green; Sheffield theatres in the 18th century, by F. T. Wood; The Brights of Market Place, by E. Lipson; Derwent Hall, by R. E. Wilson; Castleton Garland, by E. J. E. Tunmer; Sheffield gaols, by J. B. Himsworth; The stained glass window from St. Luke's, Hollis Croft, compiled by M. Walton from notes by A. C. E. Jarvis.

TRANS. HIST. SOC. LANCS. & CHES., vol. 97:—Wigan and Liverpool pewterers, by J. A. Shelley; The highway from Preston into the Fylde, by R. S. France; Concerning certain designs in screens and stallwork found in the borderland of England and Wales, by F. H. Crossley; An enquiry into the supposed connection of the founder of Peter Lathom's Charity with the Lathoms of Parbold, by R. J. A. Berry; St. James's Mount, Liverpool, by the late R. T. Bailey; A Speke inventory of 1624, by E. B. Saxton; Some glimpses of Liverpool during the first half of the eighteenth century, by A. C. Wardle; Some history of the coastwise lights of Lancashire and Cheshire, part 2, by E. C. Woods; Field names of Amounderness Hundred (modern), by F. T. Wainwright; John Gore, publisher, by A. C. Wardle; The County Record Office, Preston, in 1945, by R. S. France.

LINCOLNSHIRE HISTORIAN, No. 1 (Summer 1947):—The basis of local history, by K. Major; Post-Reformation mural paintings in parish churches, by E. C. Rouse; Enclosure and the small landowner in Lindsay, by J. D. Chambers; Museums and the local historian, by F. T. Baker; The family of Blyton, by P. B. G. Binnall; Original document—Lincoln butter-market, 1736.

PROC. S. A. NEWCASTLE, 4th ser., vol. 11, no. 1:—Eight great-grandparents, by Ruth Dodds; A document concerning Newton Cap, by C. R. Hudleston; Burial place of the Hall and Grey families, by M. Hope Dodds.

TRANS. SHROPSHIRE ARCH. SOC., vol. 52, part 1:—A handlist of English Enclosure Acts and Awards, by W. E. Tate; Kingsland and its associations, by the late J. E. Auden; The Blakeway family; Shrewsbury Mayors' accounts, by H. Beaumont; Deeds relating to the Council House, Shrewsbury; Wills proved in the Manorial Court of Ruyton-of-the-Eleven towns, 1665–1709; A perforated stone implement from Dudmaston, nr. Bridgnorth, by W. Watkins-Pitchford.

TRANS. SOUTHEND-ON-SEA ANT. & HIST. SOC., vol. 4, no. 1:—Old Southend, and the Kentish 'Armada' of 1724, by W. Pollitt; Southend-on-Sea and District Antiquarian and Historical Society: a review of twenty-five years' work, by H. N. Bride.

PROC. SPELÆOLOGICAL SOC. (BRISTOL UNIV.), vol. 5, no. 3:—Prehistoric Bristol, by Prof. E. K. Tratman; A Roman coffin found at Kelston, nr. Bath, by Marjorie Crook; Report on the skeleton found within the Roman coffin from Kelston, nr. Bath, by J. S. Baxter.

TRANS. THOROTON SOC., vol. 49:—The Stapleford cross shaft, by J. Holland Walker; The Borough of Nottingham, 1066 to 1284, by Prof. L. V. D. Owen; Sir Thomas Parkyns of Bunny, by G. E. Flack; Notes on Nottinghamshire agriculture, by T. M. Blagg; The Duke of Kingston's Regiment of Light Horse, by A. C. Wood; Local history, by A. C. Wood; A list of words illustrating the Nottinghamshire dialect, by the late E. L. Guilford.

PROC. ISLE OF WIGHT N.H. & A. Soc., vol. 4, part 1:—Archaeology, with special reference to the Isle of Wight, by O. G. S. Crawford; Notes on Pleistocene history, by F. Stroh.

YORKS. ARCH. JOURN., part 144 (1947):—The battle of Winwaed A.D. 655, by J. W. Walker; Notes on the early archdeacons in the church of York, by C. T. Clay; A note on sixteenth-century farming in Yorkshire, by J. S. Purvis; Two Mesolithic riverside sites in Yorkshire, by E. T. Cowling and H. J. Stickland; Roman Yorkshire, ed. by Miss D. Greene.

WILTS. A. & N.H. MAG., vol. 51, no. 186:—The medieval Chapter of Salisbury Cathedral, by E. F. Jacob; Devizes Castle: a suggested reconstruction, by Lt.-Col. R. H. Cunnington; The Wardens of Savernake Forest, part 2: The Seymour Wardens, by the Earl of Cardigan; Botanical references in the Saxon Charters of Wiltshire, by J. D. Grose; Wiltshire place- and field-names, I.

ARCH. CAMBRENSIS, vol. 99, part 1:—Screens, lofts and stalls situated in Wales and Monmouthshire, by F. H. Crossley; Cwm Ystwyth mines, by O. Davies; Llanthony Priory, Monmouthshire, by E. W. Lovegrove; Prehistoric flint workshop site near Abersoch, Caernarvonshire, by M. H. Ridgway and G. B. Leach; Giraldus Cambrensis, 1146–1946, by J. Conway Davies; Fouke Fitzwarin, by W. J. Hemp.

BULL. BOARD OF CELTIC STUDIES, vol. 12, parts 1–2:—The dedication of Criccieth, by J. E. Lloyd; *Cronica de Wallia* and other documents from Exeter Cathedral Library MS. 3514, by T. Jones; Caernarvonshire elections to the Long Parliament, by A. H. Dodd; A law report of a Great Sessions judgment, by W. H. D. Winder; Field archaeology in South Wales, 1939–45, by Sir Cyril Fox; Current work in Welsh Archaeology, by H. N. Savony; V. E. Nash-Williams: bibliography, by E. H. Edwards.

TRANS. HON. SOC. CYMMRODORION, 1945:—Wales in the Parliaments of Charles I, by A. H. Dodd; Sailing ships and sailors of Wales, by H. Hughes; Catholic recurrency in the counties of Denbigh, Flint and Montgomery, by E. Gwynno Jones; Sea raiders in the waters between Anglesey and Ireland during the 17th and 18th centuries, by Lucy Williams.

MONTGOMERY COLL., vol. 49, part 2:—The medieval castles of North Montgomeryshire, by R. Richards; Giraldus Cambrensis and Powis, by J. Conway Davies; The Royal Borough of Montgomery: admissions of burgesses, 1783–1879, trans. by J. D. K. Lloyd; Manorial documents relating to the Manor of Broniarth, 1536–1773, by the late Prof. E. A. Lewis, with an introduction by J. Conway Davies; The Lloyds of Montgomery, by J. D. K. Lloyd; Food through the ages, by R. V. Sayce.

HIST. BERWICKSHIRE N.C., vol. 30, part 3 (1940–6):—Coldingham Priory, by J. A. Thomson; Ladykirk Parish Church, by Rev. A. Pringle; Report on a grave at St. James's Fair Green, Kelso; Note on a bronze battle axe found near Cornhill.

ULSTER JOURN. OF ARCH., vol. 8, parts 1 and 2:—Proposals for a university at Armagh, by T. G. F. Paterson; Field archaeology in the Ballycastle district, by E. E. Evans; Movilla Abbey, by O. Davies; An urn from Culmore, Co. Antrim, by E. E. Evans; Brigid's crosses in County Armagh, by T. G. F. Paterson; A famine relic, by E. E. Evans; The Chapel of the Ford, Belfast, by W. Cassidy, Jr., and H. C. Lawlor; Iron Age pits, Camus, Co. Londonderry, by A. McL. May and R. L. May; Wooden javelin from Altinure, Co. Londonderry, by A. McL. May; The Dál Fiatach, by M. E. Dobbs; The Megalithic and Bronze Ages in Co. Antrim, by E. Watson.

Vol. 9, parts 1 and 2:—Christmas rhymes and mummers, by E. R. R. Green; The Cult of the Holy Well, by W. S. Cordner; Norman graveslabs from Co. Down, by A. H. George and O. Davies; Recent finds in Counties Armagh, Tyrone and Down, by T. G. F. Paterson; 'Long bullets' in Co. Armagh, by T. G. F. Paterson; Wooden canoes, by J. M. Mogey; Old churches in the parish of Rossinver, Co. Leitrim, by O. Davies; Newly discovered souterrains, County Antrim, by E. E. Evans; Souterrain at Ballylin, Malin, Co. Donegal, by M. R. Colhoun; The origins of Irish agriculture, by E. E. Evans; Excavations around Lough Eske, Co. Donegal, by O. Davies; Bangor Abbey, County Down, by O. Davies; Urn burial at Slaghtaverty, parish of Errigal, County Londonderry, by A. McL. May; The peoples of Northern Ireland: an anthropometric survey (*continued*), by T. Walmesley, J. M. Mogey and D. P. Gamble.

PROC. AMERICAN ANT. SOC., vol. 56, part 1:—Notes on the Thomas family portraits, by C. S. Brigham; Checklist of the portraits in the American Antiquarian Society, by F. L. Weis; A list of portraits painted by Ethan Allen Greenwood, 1801–24.

AMERICAN JOURN. ARCH., vol. 50, no. 3:—Future aims and methods in research in prehistoric Europe, by H. Hencken; The masters of the Pergamon Gigantomachy, by D. Thimme; Months in Dorian calendars, by K. Pritchett; A fourth-century bronze hydria in New York, by G. M. A. Richter; A Byzantine bronze weight, by M. C. Ross; News items from Athens, by E. P. Blegen; Notes on the history of Kush, 850 B.C.–A.D. 350, by D. Dunham; On certain portrait inscriptions, by C. Hanson and F. P. Johnson.

Vol. 50, no. 4:—A tomb of the necropolis of Ayios Ermoyenis at Kourion, by G. H. McFadden.

Vol. 51, no. 1:—The Aegean and the Orient in the second millennium B.C., by H. J. Kantor.

Vol. 51, no. 2:—The Hekatompedon on the Athenian Acropolis, by W. B. Dinsmoor; The pottery of Alaca Höyük, by H. Z. Koşay and Mahmut Akok; The Lipit-Ishtar law code, by F. R. Steele; Aegean chronology: Neolithic period and Early Bronze Age, by S. S. Weinberg; Archaeological digest, by C. B. Welles; Archaeological News—The Near East, by A. Perkins and R. J. Braidwood.

ART BULLETIN, vol. 29, no. 1:—The chancel barrier, solea and ambo of Haghia Sophia, by S. G. Xydis; Ghiberti and Master Gusmin, by R. Krautheimer; Hogarth and his borrowings, by F. Antal.

Vol. 29, no. 2:—The Quinity of Winchester, by E. H. Kantorowicz; Venetian–Byzantine works of art in Rome, by W. F. Volbach; Riemenschneider's tomb of Emperor Henry and Empress Cunegund, by J. Bier; The Cambyses Justice medal, by E. Gans and G. Kisch.

Vol. 29, no. 3:—The parallelism of Giotto's Paduan frescoes, by M. Alpatoff; Bernini's Elephand and obelisk, by W. S. Helkscher; Oriental forms in American architecture, 1800–1870, by C. Lancaster.

JOURN. NEAR EASTERN STUDIES, vol. 6, no. 2:—Some aspects of sin in the Old Testament, by W. E. Staples; The goddesses of the Egyptian tree cult, by M. L. Buhl; Traces of primitive democracy in ancient Israel, by C. U. Wolf; Alphabetic acrostics in the Hellenistic and Roman periods, by R. Marcus; A fiscal practice of the ancient Near East, by A. L. Oppenheim; Note on Psalm 109, by H. L. Creager; The message of Abdi-Ashirta to the warriors, EA 74, by G. E. Mendenhall; A canon of visible penumbral lunar eclipses for the Near East and Egypt from —1400 to —1000, by H. H. Dubs.

Vol. 6, no. 3:—A Bohairic school text on papyrus, by E. M. Husselman; The government and the governed in the Egyptian Empire, by W. F. Edgerton; The treasuries of Solomon's private chapel, by L. Waterman; Bibliographie des Égyptologues français, 1940–6, II, by J. Sainte Fare Garnot and C. Lalouette; A propos of Nuzi real property, by H. Lewy; Additional remarks on Nuzi real property, by P. M. Purves; The magical inscription from Arslan Tash, by T. H. Gaster; Protagoras the 'Porter' in Alfarabi, by R. Marcus; The 'Journal of Cuneiform Studies', by A. Heidel.

OLD-TIME NEW ENGLAND, vol. 37, no. 3:—The White-Ellery house, Gloucester, Massachusetts, by Mrs. B. K. Little; The first residential 'row houses' in Boston, by F. C. Brown; The 'Barrell Farm' or Garden, near Milk, Summer and Franklin Streets; The Franklin Urn: another version of its origin and history, by W. F. Spaulding.

NEW ENGLAND HIST. & GENEAL. REGISTER, April 1947:—Ancestry of Thomas Lewis and wife Elizabeth Marshall of Saco, Maine (*concl.*), by W. G. Davis; Cemetery inscriptions of Edmeston, N.Y., by H. E. Bolton; Bodge family of Charlestown, Mass., by G. A. Moriarty; Jagger-Gager genealogy, by H. G. Gager; New consideration of the Carolingians, by D. H. Kelly; John Huntley and descendants (*cont.*), by Mrs. A. P. Huntley; Jonathan and Nathan Gillett descendants (*cont.*), by A. L. Priest; Christ Church, Boston, records (*cont.*), by M. K. Babcock.

July 1947:—Puritanism and modern democracy, by C. K. Shipton; John Huntley and descendants (*concl.*), by Mrs. A. P. Huntley; Charlotte, Maine, vital records (*cont.*), by Mrs. M. F. Seaverns; The Moriarty family of Salem, Mass., by G. A. Moriarty; Burlington Flats, N.Y. inscriptions, by H. E. Bolton; Jonathan and Nathan Gillett descendants (*cont.*), by A. L. Priest; Christ Church, Boston, records (*cont.*), by M. K. Babcock.

Oct. 1947:—The surname Sabin(e), its origin and development from *c.* 1200, by W. H. W. Sabine; Christ Church, Boston, records (*cont.*), by M. K. Babcock; Ancient Bible reveals additional Mayflower descendants, by G. McA. Christensen; Jonathan and Nathan Gillett descendants (*concl.*), by A. L. Priest; Genealogical research in England. Throckmorton and Hastings; Captain Gershom Bradford and some of his descendants, by I. B. Cross; The Manchester family of Rhode Island (*cont.*), by A. C. and R. C. Manchester; Charlotte, Maine, vital records (*cont.*), by Mrs. M. F. Seaverns.

SPECULUM, vol. 22, no. 2:—*Lex Salica*, I, by S. Stein; The Plimpton Chaucer and other problems of Chaucerian portraiture, by R. Call; The Lords of Caesarea in the period of the Crusades, by J. L. La Monte; The cultural tradition of *Handlyng Synne*, by D. W. Robertson; Mak and the tossing in the blanket, by C. Chidamian; The Scriptorium at Corbie: 1. The library, by L. W. Jones; The Animal History of Albertus Magnus and Thomas of Cantimpré, by P. Aiken; The Old French verse *Bible* of Macé de la Charité, a translation of the *Aurora*, by P. E. Beichner; A medieval Cornutus on Persius, by

J. P. Elder; Note on the use of the Guidonian nomenclature by Machaut and Rabelais, by M. Françon; On medieval laughter, by H. Adolf; Further notes concerning Cassiodorus' influence on medieval culture, by L. W. Jones; Conradus, Boethius and pseudo-Boethius, by V. Scholderer; Note to the Meredith-Jones edition of the *Historia Karoli Magni et Rotholandi ou Chronique du Pseudo-Turpin*, by R. N. Walpole.

Vol. 22, no. 3:—Edward I, builder of towns, by C. Shillaber; Wit and mystery: a revaluation in medieval Latin hymnody, by W. J. Ong; Mediterranean elements in the British Navigation Act, by G. Schmidt; Irish saints in early German literature, by J. Hennig; The Scriptorium at Corbie: II. The script and the problems, by L. W. Jones; *Lex Salica*, II, by S. Stein; Chaucer's Claudian, by R. A. Pratt; Observations on a late medieval painting medium, by J. Watrous; The meaning of *placitum* and *mallum* in the Capitularies, by F. N. Estey; A note on the date of the Great Advent Antiphons, by J. A. Cabaniss; The beginnings of the legend of Boethius, by H. R. Patch.

ANALECTA BOLLANDIANA, tomus 64, fasc. 1 et 2:—Vida e miracles de Sancta Flor, par C. Brunel; Un nouveau fragment des Miracles de S. Ouen à Cantorbéry, par N. R. Ker; S. Mélance de Rouen, vénéré à Malmédy, et S. Mélas de Rhinocolure, par B. de Gaiffier; The English saints in the Litany in Arundel MS. 60, by F. Wormald; Sainte Sirin, martyre sous Khosrau 1er Anošarvan, par P. Devos; Una pagina di storia bizantina del secolo IV: Il Martirio dei Santi Notari, par Pio F. de' Cavalieri.

BULLETIN DE L'INSTITUT ARCHÉOLOGIQUE BULGARE, tome 12, fasc. 2 (1938):—Zur antiken Wirtschaftsgeschichte der westlichen Pontusküste bis zur Niederlassung der Römer, von C. M. Danov; Grabhügelfunde von Brezovo, von I. Welkov; Antike Denkmäler, von D. Detschew; Ein frühbyzantinischer Sandsteinkopf im Nationalmuseum zu Sofia, von D. P. Dimitrov; Die 'Grosse' und die 'Kleine Höhle' bei dem Kloster von Drenovo, von R. Popov; Hallstattfunde von Dăržanitza und Ribnovo, von V. Mikov; Les antiquités près des sources thermales de Stara-Zagora et leur captage, par D. Tsončev; Einige Bleisiegel der bulgarischen Könige Simeon und Peter, von Th. Gerassimov; La Grande Basilique de Pliska, par V. Ivanova; Notes historiques, par N. Mavrodinov.

Tome 13 (1939):—Le portrait sur les dalles funéraires antiques de l'époque romaine dans la Macédoine du Nord-Est, par D. Dimitrov; Les monuments antiques avec la figure du cavalier thrace au musée de Varna, par K. Škorpil; Une statuette de Zeus à Niš, par N. Vulić; Grabhügelforschung in Ostthrakien, von A. Müfid Mansel; Une donation de la région de Struma, par D. Detschew; Un tell de l'époque de bronze près du village de Veselinovo, par W. Mikov; Anciennes églises dans la Bulgarie occidentale, par K. Mijatev; La grande basilique de Pliska et le cérémonial de la cour bulgare, par V. Mavrodinov; Les vieux monastères de la Strandža. Contribution à la question de l'emplacement du monastère de Grégoire le Sinaïte, par G. Ajanov; Un xoanon de Hermès sur les monnaies de la ville de Enos, par T. Gerassimov; Monnaies du despote Ivanko, par T. Gerassimov.

Tome 14 (1940–2):—Notes sur une inscription métrique latine trouvée à Vojvoda, par M. Niedermann; Antike Denkmäler aus dem westlichen Küstengebiet des Schwarzen Meeres, von K. Škorpil; Antike Denkmäler aus Bulgarien, von G. Kazarow; Tombeau tumulaire antique près de Sărnevec, par D. Tzontchev; Ausgrabungen in Pliska in den Jahren 1930 und 1931, von I. Mollov; Der Palast von Krum und weitere neuentdeckte Bauten in Pliska, von K. Mijatev; Neue Ausgrabungen in der Residenz van Pliska, von P. Karasimeonoff; Byzantinische Bleisiegel aus Pliska, von T. Gerassimov.

Tome 15 (1946):—Kozjak et l'évêché de Bregalnica, par S. Michaïlov; 'La vision de saint Pierre d'Alexandrie' en Bulgarie, par I. Akrabova-Jandova; Ist die Berme charakteristisch für die urbulgarischen Wälle?, von D. Krandžalov; Les monnaies antiques contremarquées de la Moésie inférieure et de la Thrace, par T. Gerassimov; Nouvelles trouvailles à Preslav, par J. Gospodinov; Ein neues Militärdiplom aus Germania inferior, von D. Detschev; Alte Wege und daran gelegene Siedlungen im Strandža und Sakargebirge, von G. p. Ajanov; Deux inscriptions des Assénides, provenant de Batochovo et de Vratza, par V. Ivanova; Inscription en langue protobulgare trouvée à Preslav, par I. Venedikov.

FRA NATIONALMUSEETS ARBEJDSMARK, 1947:—En palæolitisk Boplads ved Bromme, af T. Mathiassen; Nationalmuseets Bøndergaardsundersøgelser, af S. Jespersen; Skæftede Stenalder-Økser, af C. J. Becker; En værdifuld Gave fra Vestindien, af J. Yde; Slots Bjærgby Høje, af P. V. Glob; Et græsk Bronzespejl, af P. J. Riis; Moseliget fra Borremose i Himmerland, af K. Thorvildsen; To Smaafund fra den yngre Bronzealder, af H. C. Broholm; Middelalderborgen ved Halkær, af A. Roussell; Kinesiske Dragter, af H. H. Hansen; Et Pragtskjold fra yngre Bronzealder, af C. J. Becker.

L'ANTHROPOLOGIE, tome 51, nos. 1–2:—Étude comparative des différentes techniques de taille du silex et des roches dures, par F. Bordes; Contributions à l'étude de la biodynamique et de la biogénèse de la race dinarique, par Dr. B. Maleš.

REVUE ARCHÉOLOGIQUE, 6 sér., tome 25:—*Σμῆναι*. Étude sur le v. 552 de *L'Hymne homérique Hermès*, par M. Feyel; Les trônes Ludovisi-Boston et les temples d'Aphrodite Erycine, I, par J. Colin; A propos d'une Étiquette de momie inédite, par A. Bataille; Les consécrations de chars dans le Sanctuaire d'Olympie, par P. Lévêque; Les trônes Ludovisi-Boston et les temples d'Aphrodite Erycine, II, par J. Colin; Sur une coupe de verre à dorures d'un kourgane du Caucase septentrional, par C. Picard; Un bas-relief mithriaque du Louvre, par F. Cumont.

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PRZEGLĄD ARCHEOLOGICZNY, Tom. 7, zesz. 1 (1946):—Les Slaves et les Germains à l'Est de l'Elbe du 6ème au 8ème siècles après J. C., par J. Kostrzewski; La céramique slave entre l'Elbe et l'Oder au moyen-âge, par J. Kostrzewski; La question de la frontière occidentale des Slaves en Allemagne centrale, par J. Kostrzewski; Les Germains préhistoriques en Pologne, par J. Kostrzewski; La céramique préhistorique en pâte grossière et en pâte fine, par W. Holubowicz; The origin and chronology of the Pomeranian hut-urns, by Mgr. J. Antoniewicz; Le berceau des Slaves au point de vue paléobotanique, par J. Kostrzewski; Plant relicts of the 7th and 8th centuries A.D. settlement at Luboń near Poznań, by K. Moldenhawer; Un dépôt de vases de bronze de Biernacice arr. de Turek, par A. H. Koszańska; Dépôt d'objets d'argent de la période protohistorique trouvé à Górzno, par Dr. Z. A. Rajewski; Agrafe de ceinture du premier âge de fer de Zalesie, par L. J. Luka. [All articles in Polish.]

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Rok 16, zeszyt 3–4:—Prądy kulturowe na ziemiach polskich w czasach przedhistorycznich, Dr. S. Nosek; Sport zimowy w zamierzchlej przeszłości, W. Szafrański; Nauczanie prehistorii w Szkole. Część II: Niemcy, Mgr. J. Kamińska.

ARCHIVO ESPAÑOL DE ARTE, No. 77:—Castronuño: Dos monumentos inéditos, por F. Antón; Reliquias de Yuste, por J. Ramón y Fernández Oxea.

ARCHIVO ESPAÑOL DE ARQUEOLOGÍA, to. 20, no. 66:—Los hallazgos arqueológicos de 'Son Favar', Capdepera (Mallorca), por L. R. Amoros y A. García y Bellido; El campo de urnas de Les Obagues del Montsant (Y la evolución de la cultura de las urnas en el sur de Cataluña), por S. Vilaseca; La necrópolis de la cueva 'Cometa dels Morts', cerca de Lluch, en Mallorca, por C. Veny; Excavaciones en Verdolay, por L. F. Fúster; Nuevas excavaciones en Tugia, por L. F. Fúster; Notas sobre el tesorillo de Palenzuela, por J. L. Monteverde; De la Galicia romana. Ara de Parga dedicada a Convetina, por L. Monteagudo.

To. 20, no. 67:—La cabeza femenil, constantiniana, de Palencia, por A. F. de Avilés; Un sarcófago cristiano de Córdoba, coetáneo de Osio, por J. Fontaine; Los yelmos visigodos, por W. Reinhart; Sobre

numismática visigoda, por W. Reinhart; Notas sobre Ibiza púnico-romana, por I. Macabich; Sobre la moneda de Carthago-Nova con 'Sacerdos', por A. Beltrán; Los guerrilleros en las luchas con Roma, por J. de C. Serra Ráfols; La batalla de Artemísion, por A. García y Bellido; Pendientes griegos de Mallorca, por A. García y Bellido; Sobre la fecha romana del busto de Elche—El Museo Arqueológico de Sevilla, por A. García y Bellido.

ACTAS Y MEMORIAS DE LA SOCIEDAD ESPAÑOLA DE ANTROPOLOGÍA, ETNOGRAFÍA Y PREHISTORIA, Tomo 20, cuadernos 1–4:—El Castro de Vilanova de San Pedro, por E. Jalhay y A. do Paço; La humanidad fósil alpina en la época glacial, por O. Menghin; El Seminario de Historia Primitiva del Hombre de la Universidad y sus actividades africanistas, por J. M. Santa-Olalla; Presencia de la Comisaría General de excavaciones arqueológicas, por J. M. Santa-Olalla.

BOLETÍN DEL SEMINARIO DE ESTUDIOS DE ARTE Y ARQUEOLOGÍA, fascículos XXVIII a XXX, Tomo VIII:—Las lenguas hispánicas, por M. Gómez-Moreno; La estación arqueológica de Montefrio. I. Los dólmenes, por C. de Mergelina; Dos monedas de oro muy raras de la época de Juan II de Castilla (1406–54), por L. Inglada Ors; Los retablos de Gaspar de Tordesillas, por C. Candeiro; Isidro de Villoldo, escultor, por M. E. Gómez-Moreno; Juan Lorenzo, platero, por E. García Chico; Iglesias medioevales gallegas. Santa Marina de Esposende, por J. Ramón y Fernández Oxea; Títulos y armas de la ciudad de Valladolid, por F. Arribas; El claustro del Monasterio de Nuestra Señora de Prado de Valladolid, por A. Plaza el S. Pérez; El retablo de Santa Ana en el Seminario Conciliar de Valladolid, por I. Durruty; La tabla de la Cena en la Colegiata de Ampudia, por E. Cutanda; El retablo mayor del Convento de Santa Isabel de Valladolid, por M. del Pilar López Barrientos; Juan de Arfe y la Custodia de Avila, por M. J. García Martín; La cruz procesional de Buitrago, por M. Teresa Mañero.

BULL. MUSEUM FAR EASTERN ANTIQUITIES, STOCKHOLM, No. 19:—Prehistoric sites in Honan, by J. G. Anderson; The census of China during the period 2–742 A.D., by H. Bielenstein.

FORNVÄNNEN, 1947:—Kungalistan från Khorsabad, av N. Åberg (English summary); Kastell i nordisk borgarkitektur, av A. Tuulse (German summary); Bestämning av brända ben från forntida gravar, av N. G. Gejvall (English summary); En medeltida ryttarakvamanil från Vä kyrka, av H. Arbman; 'Onaturliga runstenstransporter', av S. Lindqvist; Utgrävningarna i Vallhagar, 1946, av M. Stenberger; En nyupptäckt keramikboplats i Roslagen, av A. Bagge; Kiels museum under och efter Kriget, av S. L. (English summaries of notes); Nicht ein Witten, von N. L. Rasmusson; A golden brooch from the Viking Age found in Uppland, by D. Selling; The archaeological dating of Runic inscriptions of the Vendal Age, by B. Nerman; Notke's St. George, copied in 1588, by J. Roosval; Some aspects of the coloured art of the Middle Ages, by A. Geijer.

MEDDELANDEN FRÅN ÖSTERGÖTLANDS FORNMINNES- OCH MUSEIFÖRENING, 1945–7:—Ur Linköpingstraktens äldsta historia. Några pollenanalystiska data, av J. Öster; Från jul till Lucia, av S. Plænge-Jacobson; Betty Ehrenborg's besök hos Kisamos hösten 1839, av G. Taube; Norsholm II, av B. Cnattingius.

KUNGL. HUM. VETENSKAPSSAMSFUNDET I LUND: ÅRSBERÄTTELSE, 1946–7:—To the knowledge of the prehistoric craniology of Cyprus, by C. H. Hjortsjö; Zwei astronomische Texte, von E. J. Knudtzon und O. Neugebauer; Aus der Papyrussammlung der Universitätsbibliothek in Lund I–V. Titel, Register und Indices, von E. J. Knudtzon; Anglo-Saxon and Irish style-influences in Skåne during the 8th century, by E. Cinthio; Three late-Neolithic graves in East Skåne, by M. Magnusson; Eastern influences in the Roman Iron Age settlement at Vä, by B. Stjernqvist; Grave from Pre-Roman Iron Age discovered at Barsebäck, Skåne, by B. Stjernqvist; Remains of the cloister of the monastery of Dalby, by E. Cinthio; Medieval casting-mould and bronze matrix from Lund, by M. Rydbeck.

ZEITSCHRIFT FÜR SCHWEIZERISCHE ARCHÆOLOGIE UND KUNSTGESCHICHTE, Band 8:—Der römische Silberschatz aus Wettingen, von C. Simonett; Plastik und Photographie, von E. Murbach; Das Fundmaterial aus der Burgruine Lägern, von H. Schneider; Claus von Feldkirch, der Meister des Churer Sakramentshäuschens, von E. Poeschel; Tommaso Lombardis Altarstatuen in Bissone, von E. Ybl; Fayencen von Matzendorf und Schooren, von S. Ducret; Zur Limitation der Kolonie Augusta Raurica, von H. Stohler; Einige Streiflichter auf die Glasmalerei in Rapperswil und Weesen, von F. Wyss; Joh. Caspar Dietrich statt Georg Dumeisen Goldschmied in Rapperswil?, von Dora F.

Rittmeyer; Caspar Kauter, Glasmaler in St. Gallen, von P. Boesch; Fragment einer römischen silbertauschierten Dolchscheide, von W. Drack; Hans Holbeins Scheibenriß mit dem Wilden Mann, von E. Major; Das neuentdeckte älteste Bruder-Klausen-Bild und der Hochaltar von Sachseln aus dem Jahre 1492, von P. Ephrem Omlin; Johann Jakob Zeillers Deckenfresko zu Fischingen, von A. Knöpfli; A propos des amphores romaines trouvées à Nyon, par E. Pelichet; Das Warnebertusreliquiar in Beromünster, von J. Baum; Des découvertes au sujet des primitifs du Musée de Neuchâtel, par Juliette A. Bohy; Der Disentiser Barockbau, von P. I. Müller; Gli Albertolli, per M. Guidi.

SCHWEIZERISCHES LANDESMUSEUM IN ZÜRICH, JAHRESBERICHT, 1944:—Der Plättchenharnisch von Bibiton, von E. A. Geßler; Das Schwert von 'Betzimatt', von E. A. Geßler; Eine Partisane aus der sächsischen Schweizergarde, von H. Schneider.

JAHRBUCH DER SCHWEIZERISCHEN GESELLSCHAFT FÜR URGESCHICHTE, 1946:—Naturwissenschaft und Urgeschichte, von W. V. Guyan; La limite pléistocène-holocène dans la région de Genève et le problème du Mésolithique, par Ad. Jayet; La structure du Néolithique, par M. Louis; Die Nord-Südwanderung des helvetischen Dreiecksymbols, von R. Forrer; Sulla decorazione di una fibula burgundica, per F. Kientz.

DIL VE TARİH-COĞRAFYA, Cilt V, Sayı 2–1927 Mart-Nisan:—The Hittite hieroglyphic inscription of Şırzı, by Prof. H. G. Güterbock and Dr. S. Alp; Der Oğuzen-Aufstand, von Dr. Mehmet Altay Köymen.

Cilt V, Sayı 3–1947 Mayis-Haziran:—Die Auflösung der Janitcharen-Organisation, von Dr. M. Akdağ.

TÜRK TARİH KURUMU: BELLETEN, Vol. 10, Pt. 40 contains:—Sur l'anthropologie de la populations des âges chalcolitique, du cuivre et du bronze mis au jour lors des fouilles d'Alaca-höyük, 1943–5, par Dr. Seniha Tunakan; Untersuchungen über archaeologische Funde aus Anatolien, von Dr. Tahsin Özgüç.

Vol. 11, Part 41:—Du Ausgrabungen an zwei Tumuli auf dem Mausoleumshügel bei Ankara, von Tahsin Özgüç und Mahmut Akok.

Vol. 11, Part 42:—Étude anthropologique d'un crâne phrygien, par Prof. Şevket A. Kansu ve Dr. Seniha; Ein hethitisches Relief aus der Umgebung von Boğazköy, von Prof. H. G. Güterbock; A Hittite jar with animal figure, by Nimet Özgüç; Ein einzigartiges Stück aus althethitischer Zeit, von Tahsin Özgüç.

BIBLIOGRAPHY

Books only are included. Unless otherwise stated all are in the Library of the Society of Antiquaries.

AMERICAN ARCHAEOLOGY

Archaeology of Santa Marta, Colombia. The Tairona culture, pt. 2, sect. 2. Objects of pottery. By J. Alden Mason. 9½×6¼. Pp. 275–418. Anthropological series, Field Museum of Natural History, Chicago, vol. 20, no. 3. 1939.

Survey and excavations in Southern Ecuador. By D. Collier and J. V. Murra. 9½×6¼. Pp. 105. Anthropological series, Field Museum of Natural History, Chicago, vol. 35. 1943.

The Su site. Excavations at a Mogollon village, Western New Mexico, 1939. By Paul S. Martin and others. 9½×6¼. Pp. 97. Anthropological series, Field Museum of Natural History, Chicago, vol. 32, no. 1. 1940.

The Su site. Excavations at a Mogollon village, Western New Mexico. Second season, 1941. By Paul S. Martin. 9½×6¼. Pp. 101–271. Anthropological series, Field Museum of Natural History, Chicago, vol. 32, no. 2. 1943.

The Su site. Excavations at a Mogollon village, Western New Mexico. Third season, 1946. By Paul S. Martin and John B. Rinaldo. 9½×6¼. Pp. 275–382. Publications of the Field Museum of Natural History, Chicago, vol. 32, no. 3. 1940–7.

The High Priest's Grave, Chichen Itza, Yucatan, Mexico. By E. H. Thompson. 9½×6¼. Pp. 64. Anthropological Series, Field Museum of Natural History, Chicago, vol. 27, no. 1. 1938.

Archaeological work in the Ackmen-Lowry area, Southwestern Colorado, 1937. By Paul S. Martin. 9½×6¼. Pp. 220–304. Anthropological series, Field Museum of Natural History, Chicago, vol. 33, no. 2. 1938.

Modified basket maker sites, Ackmen-Lowry area, Southwestern Colorado, 1938. By Paul S. Martin. 9½×6¼. Pp. 307–499. Anthropological series, Field Museum of Natural History, Chicago, vol. 33, no. 3. 1939.

Archaeological explorations in Peru, Part III. Textiles of the Early Nazca period. By Lila M. O'Neale. 12¾×9½. Pp. 119–218. Field Museum of Natural History, Anthropology Memoirs, vol. 2, no. 3. Chicago, 1937.

Archaeological explorations in Peru, Part IV. Cañete Valley. By B. L. Kroeber. 12¾×9½. Pp. 221–73. Field Museum of Natural History. Anthropology Memoirs, vol. 2, no. 4. Chicago, 1937.

Archéologie comparée. Résumé de préhistoire. Par Émile R. Wagner et Olimpia L. Righetti. 11×8. Pp. 102. Buenos Aires, 1946.

ANCIENT MONUMENTS

Kirby Hall, Northamptonshire. By G. H. Chettle, F.S.A. 8½×5¼. Pp. 20. London: H.M. Stationery Office, 1947. *1s.*

The Castle of Balvenie, Banffshire. By J. S. Richardson, F.S.A.(Scot.), and Margaret E. B. Simpson, M.A., F.S.A.(Scot.). 8½×5¼. Pp. 8. Edinburgh: H.M. Stationery Office, 1947. *2d.*

Bothwell Castle, Lanarkshire. By W. Douglas Simpson, M.A., D.Litt., F.S.A., F.S.A.(Scot.). 8½×5¼. Pp. 8. Edinburgh: H.M. Stationery Office, 1947. *2d.*

The Abbey of Dundrennan, The Stewartry of Kirkcudbright. By J. S. Richardson, F.S.A.(Scot.). 8½×5¼. Pp. 7. Edinburgh: H.M. Stationery Office, 1947. *2d.*

Hailes Castle, East Lothian. By J. S. Richardson, F.S.A.(Scot.). 8½×5¼. Pp. 4. Edinburgh: H.M. Stationery Office, 1947. *1d.*

The Priory of Inchmahome, Perthshire. By J. S. Richardson, F.S.A.(Scot.), and Margaret E. B. Simpson, M.A., F.S.A.(Scot.). 8½×5¼. Pp. 8. Edinburgh: H.M. Stationery Office, 1947. *2d.*

Urquart Castle, Inverness-shire. By W. Douglas Simpson, M.A., D.Litt., F.S.A.(Scot.). 8½×5¼. Pp. 8. Edinburgh: H.M. Stationery Office, 1947. *2d.*

ARCHAEOLOGY: GENERAL

Dictionnaire d'archéologie chrétienne et de liturgie. Des RR. dom F. Cabrol et dom H. Leclercq. Publié sous la direction de H. Marron. Fasc. 90–1 Rabula-Rome. 11×7¾. Pp. 2038–547. Paris: Librairie Letouzey et Ané, 1947.

Archaeology and Society. By Grahame Clark. 7½×4¾. Pp. xv+222. Second edition, revised. London: Methuen, 1947. 10*s.* 6*d.*

Notes for the guidance of archaeologists in regard to expert evidence. 8½×5½. Pp. 7. Council for British Archaeology, Institute of Archaeology, Inner Circle, Regent's Park, N.W. 1. 3*d.*

ARCHITECTURE

Report as to what buildings there are of architectural or historic interest in the British West Indies (excluding the Bahamas and British Honduras), with proposals as to the best means of protecting them from damage or destruction (otherwise than by Acts of God), presented to His Majesty's Secretary of State for the Colonies. By Angus Whiteford Acworth. 13×8. Pp. 20 (typescript). 31st March 1947.

Les avant-corps de Sainte-Gertrude à Nivelles. Par R. Lemaire. 9¾×7¼. Pp. 29–78. Handelingen van het Centrum voor Archaeologische Vorschingen onder Bescherming van het Commissariaat-General voor's lands Wederopbouw &c. Antwerp, 1942.

St. Paul's Cathedral. With an introduction by Margaret Whinney. 9¾×7¼. Pp. 14+pls. 19. Cathedral Books, No. 1. London: Lund Humphries, 1947. 3*s.* 6*d.*

ART

A short history of Chinese art. By Ludwig Bachhofer. 12×9. Pp. 139. London: Batsford, 1947. 42*s.*

Les origines de l'art français. Par Raymond Lantier et Jean Hubert. 11×8¼. Pp. 88. Paris: Guy le Prat, 1947.

BIOGRAPHY

Men of taste from Pharaoh to Ruskin. By Martin S. Briggs. 8½×5¼. Pp. viii+232. London: Batsford, 1947. 15*s.*

The autobiographies and letters of Thomas Comber, sometime precentor of York and dean of Durham. By C. E. Whiting. 8½×5½. Vol. 1, pp. lxxiv+130. Surtees Society, vol. 156. Published for the Society by Andrews & Co., Durham and Quaritch, London, 1946.

BYZANTINE ARCHAEOLOGY

Armenia and the Byzantine Empire. A brief study of Armenian art and civilization. By Sirarpie Der Nersessian. 9¼×6. Pp. xv+148. Harvard University Press, 1947. $3.00.

The Great Palace of the Byzantine Emperors. Being the first report on the excavations carried out in Istanbul on behalf of the Walker Trust (The University of St. Andrews), 1935–8. 12½×10. Pp. xv+108+pls. 64. London: Geoffrey Cumberlege, 1947. 105*s.*

CATALOGUES

Le Terme di Diocleziano e il Museo Nazionale Romano. Per Salvatore Aurigemma. 7¼×5. Pp. 106. Itinerari dei Musei e Monumenti d'Italia. No. 78. Roma: La Libreria dello Stato, 1946.

Catalogue of terracottas, Cypriote, Greek, Etrusco-Italian and Roman. By Niels Breitenstein. 11¾×9¼. Pp. viii+106+pls. 135. Copenhagen: Ejnar Munksgaard, 1941.

Museo Ostiense. Per Raissa Calza. 7¼×5. Pp. 57. Itinerari dei Musei e Monumenti d'Italia, No. 79. Roma: La Libreria dello Stato, 1947.

Catalogue of maps in the Essex Record Office, 1566–1855. Edited for the Records Committee by F. G. Emmison, F.S.A., F.R.Hist.S., with a foreword by E. Lynam, D.Litt., F.S.A. Essex Record Office Publications, No. 3. 11×8¾. Pp. xx+106+pls. 30. Chelmsford: The Essex County Council, 1947. 21*s.*

Gli oggetti di avorio et di osso del Museo Sacro Vaticano. Per C. R. Morey. Catalogo del Museo Sacro, vol. 1. 16×13. Pp. 113+pls. 42. Città del Vaticano: Biblioteca Apostolica Vaticana, 1936.

Gli smalti del Museo Sacro Vaticano. Per F. Stohlman. Catalogo del Museo Sacro, vol. 2. 16×13. Pp. 66+pls. 35. Città del Vaticano: Biblioteca Apostolica Vaticana, 1939.

I tessuti del Museo Sacro Vaticano. Per N. F. Volbach. Catalogo del Museo Sacro, vol. 3, fasc. 1. 16×13. Pp. 63+pls. 59. Città del Vaticano: Biblioteca Apostolica Vaticana, 1942.

CLASSICAL ARCHAEOLOGY

Bibliographie topographique des principales cités grecques de l'Italie méridionale et de la Sicile dans l'antiquité. Par Jean Bérard. 10×6½. Pp. 116. Paris: E. de Boccard, 1941.

La colonisation grecque de l'Italie méridionale et de la Sicile dans l'antiquité: l'histoire et la légende. Par Jean Bérard. 10×6½. Pp. 562. Paris: E. de Boccard, 1941.

Polybe et l'histoire de Béotie au III^e siècle avant notre ère. Par Michel Feyel. 10×6½. Pp. 329. Paris: E. de Boccard, 1942.

Recherches sur l'histoire, la religion et la civilisation de Capoue préromaine des origines à la deuxième guerre punique. Par Jacques Heurgon. 10×6½. Pp. xiv+483. Paris: E. de Boccard, 1942.

Apotropaism in Greek vase paintings. By W. L. Hildburgh. 8½×5½. Pp. 154–225. *Reprint* Folk-Lore, vols. 57 and 58. 1946–7.

Le fronton sculpté en Grèce des origines à la fin du IV^e siècle: Étude sur les origines, l'évolution, la technique et les thèmes du décor tympanal. Par Étienne Lapalus. 10×6½. Pp. 487. Paris: E. de Boccard, 1947.

Philippes et la Macédoine Orientale à l'époque chrétienne et byzantine. Recherches d'histoire et d'archéologie. Par Paul Lemerle. 2 vols. 13×10. Texte: Pp. v+568. Album: Pls. 82. Paris: E. de Boccard, 1945.

Attic red-figure vases: a survey. By Gisela M. A. Richter. 9¼×6. Pp. xxvii+221. New Haven: Yale University Press (London: Geoffrey Cumberlege), 1946. 14*s.*

Thymélè. Recherches sur la signification et la destination des monuments circulaires dans l'architecture religieuse de la Grèce. Par Fernand Robert. 10×6½. Pp. iii+444. Paris: E. de Boccard, 1939.

Corpus Vasorum Antiquorum. United States of America. M. H. Young Memorial Museum and California Palace of the Legion of Honor, San Francisco. By H. R. W. Smith. 13×10. Pp. 57. U.S.A. fasc. 10. Harvard University Press, Cambridge, Mass., 1943.

L'architecture hellénique et hellénistique à Délos jusqu'à l'éviction des déliens (166 av. J.-C.). I. Les monuments. Par René Vallois. 11×7½. Pp. 440. Paris: E. de Boccard, 1944.

HERALDRY

A reference list of armorial stones and paintings in Cyprus. By G. K. Congreve. 10×8. Pp. 33 (typescript) (1947).

Les armoires des *Libri Amicorum* Vaudois. Par D. L. Galbreath. 11×7½. Pp. 36. *Reprint* Archives héraldiques suisses (1946).

Manuel du blason. Par D. L. Galbreath. 7¼×5½. Pp. 351. Lausanne: Éditions Spes S.A., 1942.

Armorial Neuchâtelois. Par Léon et Michel Jéquier. Tome II. 12½×9½. Pp. 341. (Pt. 5, Haas-Lardy: Pt. 6, Launay-Neuchâtel; Pt. 7, Neuchâtel-Vaumarcus-Pury; Pt. 8, Py I–Thiébaud I; Pts. 9–10, Thiébaud II–Zigerli II+Addenda et Errata). Neuchâtel: aux éditions de la Baconnière. n.d.

The heraldry of Canterbury Cathedral. The Great Cloister vault. By Commander A. W. B. Messenger, F.S.A. 8½×5½. Pp. 148. Published at the Office of the Friends, Christ Church Gateway, Canterbury, 1947. 18*s.*

HISTORY AND TOPOGRAPHY

The English country parson. By William Addison. 8½×5¼. Pp. ix+246. London: Dent, 1947. 16*s.*

Journals and narratives of the Third Dutch War. Edited by R. C. Anderson, Litt.D., F.S.A. 8¾×6. Pp. 447. Navy Records Society, vol. 86. Printed for the Society, 1946.

Roll of the Baronets as authorized by Royal Warrant, issued with the official sanction of the Standing Council of the Baronetage, 31st January 1947. 8½×6½. Pp. 68. London: Adlard, 1947.

Abstracts of the bonds and allegations for marriage licences in the Archdeaconry Court of Nottingham. Transcribed and edited by T. M. Blagg, M.B.E., F.S.A. 8¾×5½. Pp. 161–285. Thoroton Society, Record Series; vol. 10, pt. 2. Printed for the Society, 1947.

The origins of Northumbria. By Peter Hunter Blair, M.A. 8¼×5½. Pp. 51. Published for the Society of Antiquaries of Newcastle-upon-Tyne by the Northumberland Press, 1947.

Questiones Johannis Galli. Par Marguerite Boulet. 10×6½. Pp. clxxviii+559. Paris: E. de Boccard, 1944.

Medieval chantries and chantry chapels. By G. H. Cook. 8½×5½. Pp. xii+196. London: Phoenix House, 1947. 21*s*.

Shardeloes papers of the 17th and 18th centuries. Edited by G. Eland, F.S.A. 8½×5½. Pp. xii+142. London: Oxford University Press, 1947. 15*s*.

Feet of Fines for Essex. Part 28 (being Part 1 of vol. 4). 8¾×5½. Pp. 32. Colchester: published by the Society at the Museum in the Castle, 1947.

English hymns and hymn writers. By Adam Fox. 8¾×6¼. Pp. 48. London: Collins, 1947.

The story of a family through eleven centuries, illustrated by portraits and pedigrees, being a history of the family of Gorges. By Raymond Gorges. 11⅛×8½. Pp. xxiv+277. Boston: privately printed, 1944.

Burford past and present. By Mary Sturge Gretton. 8¾×5¼. Pp. 158. London: Faber & Faber, 1945.

The London compositor. Documents relating to wages, working conditions and customs of the London printing trade, 1785–1900. Edited by Ellic Howe. 8½×5¼. Pp. 528. London: The Bibliographical Society, 1947.

The register of Henry Chichele, Archbishop of Canterbury, 1414–43. Vol. 4. Edited by E. F. Jacob. 10×6½. Pp. iv+705. Canterbury and York Society, part cxvi, 1943.

The Lancashire and Cheshire Antiquarian Society, 1883–1943. By John Wilfrid Jackson. 8½×5½. Pp. 17. *Reprint* Trans. Lancs. & Cheshire Ant. Soc., vol. 57, 1946.

Bristol charters, 1509–1899. Edited by R. C. Latham. 10×6¼. Pp. xvi+254. Bristol Record Society, vol. 12. Printed for the Bristol Record Society, 1947.

The Lancashire Elizabethan recusants. By J. Stanley Leatherbarrow, M.A. 8½×6½. Pp. xi+176. Chetham Society, vol. 110—new series. Manchester: printed for the Chetham Society, 1947.

The pilgrimage of Arnold von Harff, Knight, from Cologne, through Italy, Syria, Egypt, Arabia, Ethiopia, Nubia, Palestine, Turkey, France and Spain, which he accomplished in the years 1496 to 1499. Translated from the German and edited with notes and an introduction by Malcolm Letts, F.S.A. 8½×5½. Pp. xxxv+325. Hakluyt Society, second series, no. 94. London: printed for the Hakluyt Society, 1946.

Monasterboice, Co. Louth. By R. A. S. Macalister, D.Litt., F.S.A. 8¾×5½. Pp. 79. W. Tempest, Dundalk, Dundalgan Press, 1946. 10*s*. 6*d*.

Guide to Monasterboice. By R. A. S. Macalister, M.A., D.Litt., F.S.A. 8¾×5½. Pp. 24. Dundalk: Dundalgan Press, 1944. 6*d*.

L'Ordre Cistercien et son gouvernement des origines au milieu du XIII^e siècle (1098–1265). Par Jean-Berthold Mahn. 10×6½. Pp. vii+320. Paris: E. de Boccard, 1945.

Jean XXII (1316–1334). Lettres communes analysées d'après les registres dits d'Avignon et du Vatican. Par G. Mollat. Tome XVI. Index nominum personarum et locorum (L–Z). 13×10. Pp. 652–1321. Paris: E. de Boccard, éditeur, 1947.

Northamptonshire Administrations, 1677–1710. The Index library, Part 213. 10×6¼. Pp. viii+217–55. London: The British Record Society, 1947.

Warwick County records, volume VII. Quarter Sessions records, Easter 1674 to Easter 1682. Edited by S. C. Ratcliff, I.S.O., M.A., and H. C. Johnson, M.A. With a foreword by Sir Cyril Flower, C.B., M.A., F.S.A. 9½×6. Pp. cliv+375. Warwick: published by L. Edgar Stephens, C.B.E., M.A., F.S.A., Shire Hall, 1946.

The rise of Wessex. A further essay in Dark Age History. By T. Dayrell Reed. 7¼×4¾. Pp. ix+354. London: Methuen, 1947. 18*s*.

The bombed buildings of Britain. A second and enlarged edition, 1940–5. Edited by J. M. Richards, with notes by John Summerson. 11×8¼. Pp. 202. London: The Architectural Press, 1947. 25*s*.

Old Cheshire churches. A survey of their history, fabric and furniture with records of the older monuments. By Raymond Richards, F.S.A. With a foreword by J. H. E. Bennett, F.S.A., and an introduction by F. H. Crossley, F.S.A. 10¾×8¼. Pp. xxvii+523. London: Batsford, 1947. £6. 6*s*. 0*d*.

Les relations des papes d'Avignon et des compagnies commerciales et bancaires de 1316 à 1378. Par Yves Renouard. 10×6½. Pp. xxvii+694. Paris: E. de Boccard, 1941.

The Thame Cartulary. Vol. 1. Ed. by the Rev. H. E. Salter, M.A., D.Litt., F.B.A. Oxfordshire Record Society, vol. 25. 9¼×6. Pp. iii+102. Oxford: issued for the Society, 1947.

The Victoria History of the County of Warwick. Edited by L. F. Salzman, M.A., F.S.A. Vol. 4. Hemlingford Hundred. 12×8¼. Pp. xiii+263. Published for the University of London Institute of Historical Research by the Oxford University Press, London, 1947. 42*s*.

The Royal Manx Fencibles. By B. E. Sargeaunt. 8½×5½. Pp. 101. Aldershot: Gale & Polden, 1947. 10*s*.

The Tony family. By Contance Demain Saunders. 12½×10. Pp. 19. Walthamstow Antiquarian Society, Official Publication, No. 38, 1940.

Research about Deal and Sandwich in 1945 and 1946. By W. P. D. Stebbing. 8¼×5½. Pp. 114–15. *Reprint* Arch. Cant., vol. 59.

The Parish, and reputed Manor, of Oxney, near Dover. By the late F. W. Hardman, W. P. D. Stebbing, and C. H. Gardner. 8½×5½. Pp. 82–94. *Reprint* Arch. Cant., vol. 59.

The English clergy and their organization in the later Middle Ages. The Ford Lectures for 1933. By A. Hamilton Thompson. 8½×5½. Pp. xv+327. Oxford: at the Clarendon Press, 1947. 20*s*.

Visitations in the Diocese of Lincoln, 1517–31. Edited by A. Hamilton Thompson. Volume 3. Visitations of Religious Houses (concluded) by Bishops Atwater and Longland and by their Commissaries 1517–31. Lincoln Record Society, vol. 37. 10×6½. Pp. ix+289. Printed for the Lincoln Record Society by Hereford Times, Hereford, 1947.

Catherine the Great and the Expansion of Russia. By Gladys Scott Thomson. 4¼×7. Pp. x+294. London: Hodder & Stoughton, for the English Universities Press, 1947. 5*s*.

The Great Chartulary of Glastonbury. Vol. 1. Edited by Dom Aelred Watkin. 8¾×6¾. Pp. lxxxix+xviii+248. Somerset Record Society, vol. 59. Frome: Butler & Tanner, 1947.

Later Victorian Cambridge. By D. A. Winstanley. 9×6. Pp. xii+367. Cambridge: at the University Press, 1947. 25*s*.

INDIAN ARCHAEOLOGY

The monuments of Sāñchī. By Sir John Marshall, C.I.E., Litt.D., F.S.A., and Alfred Foucher; with the texts of Inscriptions edited, translated, and annotated by N. G. Majamdar, M.A., F.R.A.S.B. 20×16. 3 vols. Vol. I, pp. xxi+396+xxxii. Vol. II, plates I–LXX. Vol. III, plates LXXI–CXLI. n.p., n.d. Rs. 210 or 15 guineas.

Delhi: Humāyūn's tomb and adjacent buildings. By S. A. A. Naqvi. 8¼×5½. Pp. 25. Published by the Manager of Publications, Delhi, 1947. As. 4 or 5*d*.

Report of the Superintendent, Archaeological Survey, Burma, for the year 1940–1. 13×8¼. Pp. 34+xxvi. Rangoon: Superintendent, Government Printing and Stationery, Burma, 1941. 3*s*. 9*d*.

MISCELLANEOUS

Ad patriam illustrandam. Hyllningsskrift till Sigurd Curman, 30 April 1946. 10½×7¼. Pp. 515. Uppsala: Almqvist & Wiksells Boktryckeri, 1946.

The Poem of Job. A literary study with a new translation. By William Barron Stevenson, D.Litt., D.D., LL.D. 9½×6. Pp. vi+123. The Schweich Lectures of the British Academy, 1943. London: published for the British Academy by Geoffrey Cumberlege, 1947. 7*s*. 6*d*.

Une épave du trésor de Saint-Denis. Fragment retrouvé de la croix de Saint Éloi. Par B. de Montesquiou-Fezensac. 11×9. Pp. 13. *Reprint* Mélanges en l'honneur de M. Fr. Martroye. Paris, 1940.

MOSAICS

The mosaics of St. Sophia at Istanbul. Second preliminary report: work done in 1933 and 1934. The Mosaics of the Southern Vestibule. By Thomas Whittemore. 11¾×8¾. Pp. 57+pls. 20. Printed at the Oxford University Press for the Byzantine Institute, 4 rue de Lille, Paris, 1936.

The mosaics of Haghia Sophia at Istanbul. Third preliminary report: work done in 1935–8. The Imperial portraits in the south gallery. By Thomas Whittemore. 11¾×8¾. Pp. 87+pls. 37. Printed at the Oxford University Press for the Byzantine Institute, Sears Buildings, Boston, U.S.A., 1942.

NEAR EASTERN ARCHAEOLOGY

The cultures of prehistoric Egypt. By Elise J. Baumgartel. 12¼×9¾. Pp. xi+122. Published on behalf of the Griffith Institute, Ashmolean Museum, Oxford, by Geoffrey Cumberlege, London: Oxford University Press, 1947. 42*s*.

Malatya. Fouilles de la mission archéologique française, dirigées par M. Louis Delaporte. Arslantepe. Fascicule 1, La Porte des Lions: par Louis Delaporte. 11½×9. Pp. 74. Mémoires de l'Institut Français d'Archéologie de Stamboul, V. Paris: E. de Boccard, éditeur, 1940.

A guide to the Cyprus Museum. By P. Dikaios, F.S.A. 8×5. Pp. xviii+149+pls. 28. Nicosia: The Cyprus Government Printing Office, 1947.

The pyramids of Egypt. By I. E. S. Edwards. Pelican Books A 168. 7×4¼. Pp. 256. Penguin Books, West Drayton, Middlesex, 1947.

L'Iran antique: Élam et Perse et la civilisation iranienne. Par Clément Huart et Louis Delaporte. L'Évolution de l'humanité, Synthèse collective, No. 24. 8×5½. Pp. xxx+516. Paris: Éditions Albin Michel, 1943. 250 *fr.*

Rapport préliminaire sur sept campagnes de fouilles a Hama en Syrie (1932–8). Par Harald Ingholt. 9½×6. Pp. 154. D. Kgl. Danske Vidensk. Selskab, Archaeol.-kunsthist. Medd. III, 1. København: Ejnar Munksgaard, 1940.

Archéologie mésopotamienne. Par André Parrot. 7½×5½. Pp. 542. Paris: Éditions Albin Michel, 1946. 480 *fr.*

NUMISMATICS

Sylloge Nummorum Graecorum, vol. IV. Fitzwilliam Museum: Leake and general collections. Part II. Sicily–Thrace. Pls. XV–XXXIII. 15¾×12. London: published for the British Academy by Geoffrey Cumberlege, Oxford University Press, and Spink & Son, 1947.

PALAEOGRAPHY

Codices Latini Antiquiores. A palaeographical guide to Latin manuscripts prior to the ninth century. Edited by E. A. Lowe. Part IV. Italy: Perugia–Verona. 17¼×12. Pp. xxviii+40. Oxford: at the Clarendon Press, 1947.

PREHISTORIC ARCHAEOLOGY

Costumes of the Bronze Age in Denmark. Contributions to the archaeology and textile history of the Bronze Age. By H. C. Broholm and Margrethe Hald, with a preface by J. Brønsted. 13¼×9¾. Pp. 172. Copenhagen: Nyt nordisk Forlag, Arnold Busck, 1940.

Danmarks Bronzealder. Av H. C. Broholm. 13½×9¾. I. Samlede Fund fra den ældre Bronzenalder. Pp. 236. II. Kultur og Folk i den ældre Bronzealder. Pp. 301. III. Samlede Fund fra den yngre Bronzealder. Pp. 283. København: Nyt nordisk Forlag, Arnold Busck, 1943–6.

Fra Danmarks Ungtid. Arkæologiske studier til Johannes Brønsted paa 50-aarsdagen. 5 Oktober, 1940. (with English and German summaries). 10×6½. Pp. 221. København: Ejnar Munksgaard, 1940.

Een kwart eeuw. Oudheidkundig Bodemonderzoek in Nederland. Gedenkboek A. E. van Giffen, Directeur van het Biologisch-Archaeologisch Instituut der Rijksuniversitet te Groningen 1912–17 Juni–1947. 9½×6¼. Pp. 608. Meppel: Boom, 1947.

Tumuli-opgravingen in Gelderland, 1935–6. Door Dr. A. E. van Giffen. 9¾–6¼. Pp. 15. *Reprint* Mededeelingen der Vereeniging 'Gelre', XL. 1937.

Bouwstoffen voor de Groninger Oergeschiedenis III. Door Dr. A. E. van Giffen. 9×6. Pp. 73–100. *Reprint* Verslag 1939 van het Museum van Oudheden te Groningen.

Grafheuvels te Zwaagdijk. Door Dr. A. E. van Giffen. 9½×6¼. Pp. 121–243. *Revised reprint* West Friesland's Oud en Nieuw XVII. 1944.

A lenda e as ruinas de Calcedónia na Serra do Gerez. Por A. Mendes Correia e Carlos Teixeira. 9½×7¼. Pp. 15. *Reprint* Minia, vol. 1. 1946.

A estação paleolítica do Esteiro (Campanha). Por F. Russell Cortez. 9¼×7. Pp. 11. *Reprint* Boletim Cultural, vol. 9, fasc. 1–2. 1946.

Achados paleolíticos no cemiterío da Foz-do-Douro. Por Russell Cortez. 9×6. Pp. 3. *Reprint* Trabalhos da Soc. Portuguesa de Ant. e Etnol., vol. 10, fasc. 3–4.

A find of the Early Iron Age from Llyn Cerrig Bach, Anglesey. By Sir Cyril Fox, P.S.A., F.B.A. 10¼×8¼. Pp. viii+98. Cardiff: National Museum of Wales, 1946. 10*s.*

A Stone Age cave site in Tangier. Preliminary report on the excavations at the Mugharet el 'Aliya, or High Cave, in Tangier. By Bruce Howe and Hallam L. Movius, Jr. 10¾×7¾. Pp. 32. Papers of the Pea-

body Museum of American Archaeology and Ethnology, vol. 28, no. 1. Cambridge, Mass., U.S.A.: published by the Museum, 1947.

Land occupation in Denmark's Stone Ages. A pollen-analytical study of the influence of farmer culture on the vegetational development. By J. Iversen. 10¼×7. Pp. 68. (Text in Danish and English.) Danmarks Geologiske Undersøgelse. II Række, Nr. 66. København: i Kommission hos C. A. Reitzels Forlag, 1941. kr. 4.

Grosspolen in vorgeschichtlicher Zeit. Von Józef Kostrzewski. 11½×8¼. Pp. 96 (typescript). Dienstliche Übersetzung aus dem Polnischen ausgeführt vom Landesamt für Vorgeschichte, Posen, durch Adele Sommerfeld. Publikationsstelle in Berlin-Dahlem, Berlin, 1943.

Vorgeschichte der polnischen Länder vom Mesolithikum bis zur Völkerwanderungszeit. Von Józef Kostrzewski. 11½×8¼. Pp. 203 (typescript). Dienstliche Übersetzung aus dem Polnischen ausgeführt von Dr. Gerhard Sappok und vom Landesamt für Vorgeschichte, Posen. Publikationsstelle in Berlin-Dahlem, Berlin, 1943.

La culture des tombeaux à caisse et sous cloche dans la Pologne du Sudouest. Par Stefan Nosek. Prace Prehistoryczne Nr. 3. 12×9. Pp. 142.

Metallteknik under förhistorisk tid. Af Andreas Oldeberg. 12¼×9¼. Del I, pp. 243. Del II, pp. 373. Lund, 1942.

El Sahara Español anteislamico. Por Julio Martínez Santa-Olalla. II. Laminas. 12½×9½. Pls. 235. Madrid, 1944.

Studien zur Vor- und Frühgeschichte. Carl Schuchhardt zum achtzigsten Geburtstag dargebracht. 10½×8. Pp. 109. Berlin: Walter de Gruyter, 1940.

Die Vorgeschichte Schleswig-Holsteins. Von Gustav Schwantes. 11×8. Pp. 589. Neumünster: Karl Wacholtz Verlag, 1939.

Dyrholmen: en stenalderboplads paa Djursland. Af Thurkel Mathiassen, Magnus Degerbøl og J. Troels-Smith. 10½×8. Pp. 212. Det Kongelige Danske Videnskabernes Selskab. Arkæologisk-kunsthistoriske skrifter, Bind 1, Nr. 1. København: i Kommission hos Ejnar Munksgaard, 1942. (German summary.)

ROMAN ARCHAEOLOGY

The pottery from the Roman fort at Carzield. By Eric Birley and J. P. Gillam. 8¼×5½. Pp. 11. *Reprint* Trans. Dumfries and Galloway N. H. and Arch. Soc., vol. 24.

Le Maroc des romains. Étude sur les centres antiques de la Maurétanie Occidentale. Par L. Châtelain. 10×6½. Pp. 317. Paris: E. de Boccard, 1944.

O Crasto de Esturãos. Por F. Russell Cortez. 9×6¾. Pp. 8. *Reprint* Arquivo do Alto Minho, 1946.

Roman Canterbury, the city of Durovernum. By Sheppard Frere, F.S.A. 8¼×5½. Pp. 24. London: The Medici Society, 1947. *2s.*

Handbook to the Roman Wall. By J. Collingwood Bruce. Tenth Edition, edited by Ian A. Richmond. 7¼×5. Pp. ix+236. Newcastle upon Tyne: Andrew Reid & Co., 1947. *10s. 6d.*

Roman Britain. By Ian Richmond. 8¾×6½. Pp. 48. London: Collins, 1947. *5s.*

Dioclétien et la Tétrarchie. Par William Seston. I. Guerres et réformes (284–300). 10×6½. Pp. 398. Paris: E. de Boccard, 1946.

Minas romanas na Serra de Lousã. Por Carlos Teixeira. 9×6. Pp. 4. *Reprint* Trabalhos da Soc. Portuguesa de Ant. e Etnol., vol. 10, fasc. 3–4.

Essai sur la Province romaine de Bétique. Par R. Thouvenot. 10×6½. Pp. 748. Paris: E. de Boccard, 1940.

Répertoire archéologique du Département de Meurthe-et-Moselle (période gallo-romaine). Par Maurice Toussaint. 9×5¼. Pp. 141. Nancy: Société d'Impressions Typographiques, 1947.

Répertoire archéologique du Département de la Meuse (période gallo-romaine). Par Maurice Toussaint. 10×6½. Pp. 217. Bar-le-duc: Imprimerie Contant-Laguerre, 1946.

Roman Canterbury. An account of the excavations carried out September–October, 1944. By Audrey Williams, M.A., F.S.A. 8¼×5½. Pp. 20. London: The Medici Society, 1947. *2s.*

SCANDINAVIAN ARCHAEOLOGY

Gjermundbufunnet. En høvdingegrav fra 900-årene fra Ringerike. Av Sigurd Grieg. 12¾×10. Pp. 82. Norske Oldfunn VIII. Oslo, 1947.

Forntida gårdar i Island. Meddelanden från den nordiska arkeologiska undersökningen i Island sommaren 1939. Av. A. Roussel, M. Stenberger, M. Þórðarson, J. Voionmaa, S. Thorarinsson, M. Degerbøl, A. Nilsson, J. Steffensen. 11½×7¾. Pp. 332. København: Ejnar Munksgaard, 1943. (Summary in English.)

SCULPTURE

Style in sculpture. Edited by Leigh Ashton, F.S.A. 7½×5. Pp. 64. Oxford University Press, 1947. 4*s.* 6*d.*

English church monuments, 1510 to 1840. By Katharine A. Esdaile, with an introduction by Sacheverell Sitwell. 8¾×5¾. Pp. vi+144. London: Batsford, 1946. 21*s.*

SEPULCHRAL MONUMENTS

Gravmonument från Sveriges medeltid. Av Sölve Gardell. (Summary in French.) 2 vols. 9½×6. I. Text, pp. xiv+579. II. Avbildningar, pp. vii+296. Kungl. Vitterhets Historie och Antikvitets Akademien. Stockholm: Wahlström & Widstrand, 1945.

TAPESTRY

Les tapisseries de l'Apocalypse de la Cathédrale d'Angers, accompagnés du texte de l'Apocalypse de Saint Jean dans la traduction de le Maistre de Sacy. Par André Lejard. 11×7½. Pls. 72. Paris: Albin Michel, éditeur, 1942.

PROCEEDINGS OF THE SOCIETY OF ANTIQUARIES

Thursday, 23rd October 1947. B. H. St. J. O'Neil, Esq., Vice-President, in the Chair.

Mr. H. G. Leask, Mr. H. Hird, Rev. C. L. Cresswell, and Mr. J. E. M. Macgregor were admitted Fellows.

Mr. H. G. Leask, Hon. F.S.A., read a paper on Irish tower houses.

Thursday, 30th October 1947. Sir Cyril Fox, President, in the Chair.

Canon R. F. Wilkinson was admitted a Fellow.

Sir Cyril Fox, President, and Mr. M. R. Hull, F.S.A., read a paper on the Incised design on a Celtic mirror from Colchester.

Thursday, 6th November 1947. B. H. St. J. O'Neil, Esq., Vice-President, in the Chair.

Dr. K. A. Steer was admitted a Fellow.

Mr. J. P. T. Burchell, F.S.A., exhibited palaeolithic implements from the 50-foot gravels at Ham Hill, near Snodland, Kent, and Bronze Age pottery and flint implements from Milton Regis, Kent. Mr. B. H. St. J. O'Neil, V.-P.S.A., exhibited a Roman buckle from Bourton-on-the-Water, the unfinished matrix for a wafer from Finchale Priory, Durham, and two bronze fibulae from a stone-lined grave in the Scilly Isles (*Antiq. Journ.* xiv, 302). Mr. G. C. Dunning, F.S.A., exhibited a bone pin of the late eleventh or early twelfth century from Richmond Castle, Yorkshire.

Thursday, 13th November 1947. Dr. I. A. Richmond, Vice-President, in the Chair.

Mr. E. C. Francis and Canon G. W. O. Addleshaw were admitted Fellows.

Mr. B. H. St. J. O'Neil, Vice-President, read a paper on Castle Rushen, Isle of Man.

Thursday, 27th November 1947. Sir Cyril Fox, President, in the Chair.

Mr. E. M. Jope, F.S.A., and Mr. R. I. Threlfall read a paper on Excavations at Deddington Castle, Oxfordshire.

The meeting was preceded by an Extraordinary Meeting at which alterations to the Statutes, Cap. III, Sections i, ii, and iii, were adopted, fixing the annual subscription at six guineas and the entrance fee at twelve guineas for Fellows elected after 1st January 1948.

Thursday, 4th December 1947. Miss M. V. Taylor, Vice-President, in the Chair.

Mr. Adrian Oswald, F.S.A., read a paper on All Hallows, Lombard Street, excavation and evolution.

Thursday, 11th December 1947. Sir Frederic Kenyon, Hon. Vice-President, in the Chair.

Sir Leonard Woolley, F.S.A., read a paper on Excavations at Atchana-Alalakh, 1947.

Thursday, 18th December 1947. W. H. Godfrey, Esq., Vice-President, in the Chair.

Dr. F. J. North was admitted a Fellow.

Dr. W. G. Hoskins read a paper on the Development of the Leicestershire farm-house and cottage, 1400–1800.

Thursday, 8th January 1948. W. H. Godfrey, Esq., Vice-President, in the Chair.

The following were elected Fellows of the Society: Mr. Michael Maclagan, Mr. Stanley John Wearing, Mr. Frederick William Robins, Mr. Frederick George Blair, Miss Florence Elizabeth Harmer, Mr. William Currall, Mr. Walter Godfrey Allen, Mr. Henry Francis Owen Evans, Mr. Henry John Evans, Mr. Harold Cedric Bowen, Miss Elsie Matley Moore, Miss Ethel Carleton Williams, Rev. Alfred Gilbert Goddard Thurlow, Mr. Harold Herbert Williams, Mrs. Margaret Eleanore Murray Threipland, Mrs. Helen Evangeline O'Neil.

Mr. H. Stanford London, F.S.A., exhibited the seal of Sir John Griffyth of Wichnor and Burton Agnes and the seal of Croumedal, lent by Lt.-Col. F. Hollingworth; and the Pedigree of Griffyth of Wichnor and Burton Agnes, lent by Capt. M. Wickham Boynton. Mr. M. R. Hull, F.S.A., exhibited the seal of Abbot Simon de Blyton. Mr. G. C. Dunning, F.S.A., exhibited a late thirteenth-century jug from Grey Friars Lane, Coventry, lent by J. B. Shelton, Esq.

Thursday, 15th January 1948. Dr. I. A. Richmond, Vice-President, in the Chair.

Miss E. Carleton Williams was admitted a Fellow.

Mr. G. H. S. Bushnell, F.S.A., exhibited a leaden bird found about 1840 at Great Chesterford, Essex, by Hon. R. C. Neville, F.S.A.

Mr. R. H. D'Elboux, F.S.A., read a paper on Testamentary brasses.

Thursday, 29th January 1948. Sir Cyril Fox, President, in the Chair.

Mr. S. J. Wearing and Mr. H. F. Owen Evans were admitted Fellows.

On the nomination of the President the following were appointed Auditors of the Society's Accounts for the year 1947: Mr. Lewis Edwards, Mr. H. Stanford London, Mr. A. R. Wagner, Mr. F. Wormald.

Mr. A. W. Acworth read a paper on the Georgian tradition in West Indian architecture.

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